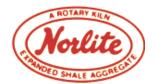


Prepared by: AECOM Westford, MA 60163411.400 April 2011

MACT Comprehensive Performance Test Report and Notification of Compliance for Lightweight Aggregate Kilns 1 and 2 Final Report







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Final Report



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Glossary of Terms and Acronyms

acfm actual cubic feet per minute
APCS air pollution control system

ASME American Society of Mechanical Engineers
ASTM American Society for Testing and Materials

AWFCO automatic waste feed cut-off

Cd cadmium

CEMS continuous emission monitoring system

CFR Code of Federal Regulations

Cl₂ chlorine (gas)

CMS continuous monitoring system

CO carbon monoxide
COA certificate of analysis

CO₂ carbon dioxide COC chain of custody

CPT comprehensive performance test

Cr chromium

CVAAS cold vapor atomic absorption spectroscopy

DCS/DAS distributive control system / data acquisition system

DI deionized (water)

DOC documentation of compliance

DOT Department of Transportation (U.S.)

DRE destruction / removal efficiency

dscfm dry standard cubic feet per minute

dscm dry standard cubic meter
EDL estimated detection limit

EPA Environmental Protection Agency (U.S.)

EMPC estimated maximum possible concentration

FRP fiberglass-reinforced plastic FSAP Feed stream analysis plan

gpm gallons per minute g/hr grams per hour g/sec grams per second

gr/dscf grains per dry standard cubic foot

GC/MS gas chromatography/mass spectrometry

AECOM Environment Vi

HAPs hazardous air pollutants

HCl hydrogen chloride (gas) or hydrochloric acid

Hg mercury

HOCs hazardous organic constituents

HRA hourly rolling average

HRGC/HRMS high resolution gas chromatography / high resolution mass spectrometry

HWC hazardous waste combustor

ICAP inductively coupled argon plasma

ICP-MS inductively coupled plasma mass spectrometry

ID induced draft (fan)

IDL instrument detection limit

in. w.c. inches water column (pressure)

LCS/LCSD laboratory control sample/ laboratory control sample duplicate

LLGF liquid low-grade fuel lb/hr pounds per hour

LWAK lightweight aggregate kiln

LVM low volatile metals (arsenic, beryllium and chromium)

MACT maximum achievable control technology

MCB monochlorobenzene
MDL method detection limit

μg micrograms mg milligrams

mg/kg milligrams per kilogram

MS/MSD matrix spike / matrix spike duplicate

ND non-detect or not detected NDIR non-dispersive infrared

NELAC National Environmental Laboratory Accreditation

NESHAPs National Emission Standards for Hazardous Air Pollutants

ng nanograms

NIST National Institute of Standards and Technology

NOC Notification of Compliance

NO_x oxides of nitrogen

NYSDEC New York State Department of Environmental Conservation

O&M operation and maintenance
OPL operating parameter limit

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OTC operator training and certification

 ${\sf O_2}$ oxygen Pb lead

PCDDs polychlorinated dibenzo-p-dioxins
PCDFs polychlorinated dibenzofurans

pg picograms

PET performance evaluation test
PLC programmable logic controller

P&ID process and instrumentation diagram

PM particulate matter

POHC principal organic hazardous constituent

ppb(v) parts per billion (volume basis) ppm(v) parts per million (volume basis)

QAO quality assurance officer

QAPP quality assurance project plan
QA/QC quality assurance/quality control

RA relative accuracy RAVG rolling average

RCRA Resource Conservation and Recovery Act

RL reporting limit

RPD relative percent difference
RRF relative response factor
RSD relative standard deviation
RDL reliable detection level

scfh standard cubic feet per hour scfm standard cubic feet per minute

S/N signal-to-noise ratio

 SO_2 sulfur dioxide SO_3 sulfur trioxide H_2SO_4 sulfuric acid

SOP standard operating procedure SRE system removal efficiency

SSMP startup, shutdown and malfunction plan SVM semivolatile metals (cadmium and lead)

tph tons per hour

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TEF toxic equivalency factor
TEQ toxic equivalencies
THC total hydrocarbons
WAP waste analysis plan

1.0 Statement of Compliance

The hazardous waste combustor (HWC) identified as lightweight aggregate kiln (LWAK) No. 1 operated at the Norlite Corporation facility in Cohoes, New York was tested in October 2010 and January 2011 to assess the unit's performance relative to the emissions standards and related requirements set forth in 40 CFR 63 Subpart EEE. This Report documents that Norlite's LWAK systems fully comply with these standards.

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2.0 Program Summary and Notification of Compliance

2.1 Summary of Test Results

Norlite conducted its Maximum Achievable Control Technology (MACT) Comprehensive Performance Test (CPT) on Kiln No. 1 over the following two time periods during 2010 and 2011:

- October 18-22, 2010; and
- January 10-14, 2011

Two separate testing campaigns were required due to the fact that higher than expected polychlorinated dibenzo-p-dioxins / polychlorinated dibenzofurans (PCDDs/PCDFs) emissions occurred during the original Condition 1 conducted in October 2010. Ultimately, results from these two separate CPT programs demonstrated full compliance with all MACT performance standards and/or performance criteria. The test program was conducted in accordance with an approved MACT CPT Plan and under full oversight of the New York State Department of Environmental Conservation (NYSDEC). As described in the Plan, test parameters included regulated emissions and/or performance standards.

An overall summary of emission results and/or performance criteria for all MACT-regulated parameters along with identification of the specific test phase from which the data were used to demonstrate compliance is provided in **Table 2-1**.

Table 2-1 Overall Summary of CPT Emission Results

Regulatory Citation /			CPT Test Codition				
Emission Parameter	Units	1	2	1RT	1A	Limit ^(a)	
40 CFR 63.1221(a)(1)(i)							
PCDDs/PCDFs							
(TEQ Basis)	ng/m³	0.3121	0.1374	0.0334	0.0237	0.20	
40 CFR 63.1221(a)(2)							
Mercury	μg/m³	(b)	33.6	(b)	(b)	120	
40 CFR 63.1221(a)(3)							
Semivolatile Metals	μg/m³	(b)	54.5	(b)	(b)	250	
(Cd and Pb)	lb/10 ⁶ Btu	(b)	5.7E-05	(b)	(b)	3.0E-04	
40 CFR 63.1221(a)(4)							
Low Volatile Metals	μg/m³	(b)	36.6	(b)	(b)	110	
(As, Be and Cr)	lb/10 ⁶ Btu	(b)	3.9E-05	(b)	(b)	9.5E-05	
40 CFR 63.1221(a)(5)(i)							
Carbon Monoxide	ppm	30.0	41.7	34.5	45.5	100	
40 CFR 63.1221(a)(6) HCl and Cl ₂	ppm	(b)	97.0	(b)	(b)	600	
40 CFR 63.1221(c)(1) POHC DRE	%	(b)	(b)	(b)	99.9977	99.99	
40 CFR 63.1221(a)(5)(i) Total Hydrocarbons	ppm	(b)	(b)	(b)	4.85	20	
40 CFR 63.1221(a)(7) Particulate Matter	gr/dscf	(b)	0.0127	(b)	(b)	0.025	

⁽a) Final MACT standards for lightweight aggregate kilns were published in the Federal Register on October 12, 2005. See 70 FR 59574, Section 63.1221.

⁽b) Parameter not measured during this condition.

Note 1: All emission data (except DRE) are corrected to 7% oxygen.

Note 2: Emission standards for LVM and SVM (thermal) are based on heat input from the hazardous w aste (LLGF).

2.2 Notification of Compliance (NOC)

The requirements for a NOC under the HWC MACT rule are outlined under 40 CFR 63.1210(d). As required by the regulations, an NOC is required to be submitted within 90 days of test completion. This CPT report and NOC is being submitted prior to the **April 14, 2011** deadline, as specified by NYSDEC. The following sections provide the required information.

2.2.1 Facility Information

The Norlite LWAKs produce an expanded shale aggregate and in the process burn liquid low-grade fuel (LLGF) as an energy source. The process is monitored and controlled by a distributive control system (DCS) capable of continuously monitoring the process to assure operational parameters are within regulatory and permit limits while waste is being fed to the unit. In addition, both kilns are equipped with a continuous emissions monitoring system (CEMS) that continuously samples the exhaust gases for oxygen and carbon monoxide concentrations in the stack gas stream. The facility ID and mailing address is:

Norlite Corporation 628 South Saratoga Street Cohoes, New York 12047

U.S. EPA ID #: NYD 080 469 935

The primary contact is:

Mr. William Morris Vice President of Environmental Affairs

Phone: (203)-537-2322

E-mail: bmorris@norlitecorp.com

2.2.2 Source Information and Applicability

In accordance with the provisions of 40 CFR §63.1201(a), all hazardous waste combustion sources must be treated as if they are major sources under the Title V permitting program.

2.2.3 Emission Standards

The emissions standards that apply to the Norlite facility that were evaluated under this program are summarized in **Table 2-2**.

Table 2-2 Applicable Emission Standards for Lightweight Aggregate Kilns

Emissions Parameter	Limit	Citation
Destruction and Removal Efficiency (DRE)	<u>></u> 99.99%	40 CFR 63.1221(c)(1)
PCDDs/PCDFs	≤0.20 ng/dscm TEQ	40 CFR 63.1221(a)(1)(i)
Total Chlorine (as HCl & Cl ₂)	≤ 600 ppmv dry	40 CFR 63.1221(a)(6)
Mercury	≤ 120 µg/dscm or MTEC in excess of 120 µg/dscm	40 CFR 63.1221(a)(2)
Semivolatile Metals (SVM) (Cadmium and Lead)	≤ 250 µg/dscm and ≤ 3.0E-04 lb per MMBTU heat input*	40 CFR 63.1221(a)(3)
Low Volatile Metals (LVM) (Arsenic, Beryllium and Chromium)	≤ 110 μg/dscm and ≤ 9.5E-05 lb per MMBTU heat input*	40 CFR 63.1221(a)(4)
Carbon monoxide or	≤ 100 ppmv dry	40 CFR 63.1221(a)(5)(i)
Totals Hydrocarbons	≤ 20 ppmv	40 CFR 63.1221(a)(5)(ii)
Particulate Matter (PM)	≤ 0.025 gr/dscf	40 CFR 63.1221(a)(7)

^{*} heat input from hazardous waste (e.g., LLGF)

70 FR 59574, October 12, 2005

Note: All emission parameters (except DRE) are measured on a dry basis and corrected to 7% O2.

2.2.4 Operating Parameter Limits

Operating parameter limits (OPLs) are established during the CPT to ensure continued compliance with the MACT standards. The specific OPLs that must be set are delineated in the regulations under 40 CFR 63.1209. The final set of MACT OPLs resulting from the two testing events (the original Condition 2 testing in October 2010 and successful retesting of Condition 1 in January 2011) is provided in **Table 2-3**. Further discussion on the regulatory requirements associated with these OPLs and the logic pertaining to how these limits have been established is provided later in Section 4.5.

Table 2-3 Final OPLs Established to Ensure MACT Compliance

Kiln Operating Parameters	Units	CPT Test Results		How	MIN or	Cond.	Final	
		C2	C1RT	C1A	Set	MAX	Used	OPL
Process & CEM Parameters								
Total (and Pumpable) LLGF Feed	gpm	10.3	10.3	10.5	(a)	MAX	C1A	10.5
Kiln Production Rate (Shale Feed)	tph	22.8	23.6	23.6	(a)	MAX	C2	22.8
LLGF Atomization Pressure	psi	60.7	37.7	35.9	(b)	MIN	C1A	35.9
Back End Temperature	°F	990	895	895	(c)	MIN	C1A	895
Heat Exchanger Exit Temperature	°F	450	434	436	(c)	MAX	C1A	436
Flue Gas Flowrate	wetscfm	35,691	34,425	45,625	(c)	MAX	C1A	45,625
CO Conc. @ 7% O ₂	ppm	41.7	34.5	45.5	(d)	MAX	N/A	100
APCS Parameters								
Baghouse Inlet Temperature	°F	400	386	383	(c)	MAX	C2	400
Venturi Pressure Drop	in. w.c.	6.1	6.2	8.6	(c)	MIN	C2	6.1
Scrubber Recirculation Rate	gpm	174.7	172.7	171.1	(c)	MIN	C2	174.7
Scrubber Blowdown Rate	gpm	14.6	13.9	14.1	(c)	MIN	C2	14.6
Scrubber Liquid Ph	рН	8.1	8.0	8.0	(c)	MIN	C2	8.1
Scrubber Tank Liquid Level	% Ht.	58.0	56.5	56.7	(c)	MIN	C2	58.0
Scrubber Liquid to Gas Ratio	gal / 10 ³ ft ³	4.9	5.0	3.8	(c)	MIN	C2	4.9
Lime Feed Rate	lb/hr	250	270	270	(c)	MIN	C2	250
Lime Carrier Fluid Flow Rate	scfm	151.8	150.8	150.1	(c)	MIN	C2	151.8
Constituent Feed Rates								
Total Chlorine	lb/hr	119.2	93.4	119.2	(c)	MAX	C2	119.2
Total SVM (Cd & Pb)	lb/hr	6.56	1.26	1.68	(c)	MAX	C2	29.3
Total LVM (As + Be + Cr)	lb/hr	6.46	4.74	5.03	(c)	MAX	C2	16.6
Total Pumpable LVM	lb/hr	2.86	0.85	1.17	(c)	MAX	C2	5.55
Total Mercury	lb/hr	0.0109	0.0018	0.0022	(c)	MAX	C2	0.036

- (a) Average of the maximum hourly rolling average for each run
- (b) Based on manufacturer recommendation and Norlite operating experience
- (c) Average of the test run averages. For metals, also based on extrapolation; see Table 4-11 and associated text.
- (d) Regulatory citation

2.2.5 Automatic Waste Feed Cutoff Limits

Norlite's LWAK systems continuously operate with an automatic waste feed cutoff (AWFCO) system to ensure compliance with all applicable operating and feed rate limits. The AWFCO system triggers a waste feed cutoff whenever any of the following conditions exist:

- when an OPL is exceeded;
- when an emission standard monitored by a CEMS (i.e., carbon monoxide) is exceeded;
- when the span value of any continuous monitoring system (CMS) detector (except a CEMS) is met or exceeded;
- upon malfunction of a CMS; and
- when any component of the AWFCO system fails (manual shutdown).

Table 2-4 lists the AWFCO limits and set points (representing a combination of RCRA and MACT limits) that will become operational upon submittal of this NOC. The waste feed will be automatically shut off whenever one of the set points is exceeded. Each of these operating parameters will

continue to be monitored during a cutoff event. The waste feed can be restarted only after each of the above AWFCO conditions is satisfied.

Testing of the automatic waste feed cutoff system is conducted in accordance with requirements delineated in 40 CFR 264.347(c) and as outlined in Permit Module VII, Section E (Monitoring and Inspection), paragraph (3). Briefly, this consists of monthly testing of the AWFCO system and all associated alarms. Permit requirements also include continuing testing performed on at least one system parameter on a random basis at least once every 7 days to verify proper operation of the control valves. Actual AWFCO events fulfill the weekly testing requirement.

Table 2-4 AWFCO Parameters and Operating Limits

Process Parameter	Units	Basis ^a	Current Alarm Set Point	Current AWFCO Limit
LLGF Feed Rate	gpm	HRA	9.0	> 10.3
Pumpable LLGF Feed Rate	gpm	HRA	9.0	> 10.3
Shale Feed Rate	tph	HRA	21	22
Minimum Back-end Temperature	°F	HRA	910	< 896
Maximum Back-end Temperature	°F	HRA	1,010	> 1,030
CO Concentration at the Baghouse Outlet Corrected to 7% O ₂	ppm, dry basis	HRA	60	> 100
Stack Gas Flowrate	Wet scfm	HRA	44,500	> 45,000
Kiln Pressure	in. w.c.	INST	- 0.08	> - 0.05
Minimum Baghouse Pressure Drop	in. w.c.	HRA	5.6	< 5.1
Scrubber Water Recirculation Rate	gpm	HRA	194	< 180
Heat Exchanger Outlet Temperature	°F	HRA	448	> 453
Maximum Baghouse Inlet Temperature	°F	HRA	390	> 399
Minimum Lime Feed Rate	lb/hr	N/A	290	< 270
Minimum Recirculation Tank pH	рН	HRA	8.2	< 8.0
Minimum Venturi Pressure Drop	in. w.c.	HRA	3.5	< 2.9
Minimum Ducon Unit Pressure Drop	in. w.c.	HRA	2.0	< 1.5
Scrubber Water Blow Down	gpm	HRA	17	< 16.2
LLGF Line Pressure	psig	HRA	40	< 35
LLGF Atomization Pressure	psig	HRA	60	< 52

^a HRA = Hourly Rolling Average; INST = Instantaneous

Note: Values in this table represent a combination of RCRA and MACT limits

2.2.6 HWC Residence Time

The HWC MACT rule defines hazardous waste residence time as "the time elapsed from cutoff of the flow of waste into the combustor until solid, liquid and gaseous materials from the hazardous waste exit the combustion chamber." This is a regulatory term used to define when a unit is operating under a hazardous waste combustion mode. For the purposes of the residence time calculation for Norlite's rotary kilns, this determination is based on the gas-phase residence time since only liquid hazardous waste is burned and since the LLGF would be instantly vaporized in the kiln burning zone where temperatures range from 2,200°F to 3,000°F. The calculation of residence time is based on the kiln dimensions and actual stack gas flowrate measurements. The longest residence time for each kiln would result from the lowest flue gas flowrate and lowest kiln temperature. These calculations have been based on the flowrate measured by the Method 23 (PCDD/PCDF) sampling train during Condition A of the April 1999 trial burn (41,900 acfm at 140°F). The resulting calculation yields residence times of 4.4 seconds and 4.6 seconds for Kilns 1 and 2, respectively. These computations were presented in more detail in Appendix A of the approved CPT Plan.

2.2.7 Fugitive Emissions

Norlite complies with the requirements of 40 CFR 63.1206(c)(5)(i)(B) for controlling combustion system leaks of hazardous air pollutants (HAPs) by maintaining the maximum combustion zone pressure lower than ambient pressure using an instantaneous monitor. In addition, Norlite has installed a double-walled fugitive emission containment system on the kilns. The emissions capturing system (interstitial chamber) pressure will be kept at or below -0.08 in. w.c. on an hourly rolling average basis with an AWFCO should the HRA exceed -0.08 in. w.c. The following additional operational conditions apply:

- The front end pressure shall remain at or below -0.05 in. w.c. If the front end instantaneous pressure continuously exceeds -0.05 in.w.c. for more than 3.0 seconds, an AWFCO shall occur immediately.
- If the front end instantaneous pressure continuously exceeds 0.00 in. w.c. for more than 1.0 second, then an AWFCO shall occur immediately.
- If the emissions capturing system (interstitial chamber) instantaneous pressure reaches or exceeds 0.00 in. w.c. continuously for more than 1.0 second, then an AWFCO shall occur immediately.
- If at any time the instantaneous front end pressure and the emissions capturing system pressure reach or exceed 0.00 in. w.c. at the same time, then an AWFCO shall occur immediately.

2.2.8 Other MACT Operating Requirements

2.2.8.1 Startup, Shutdown Malfunction Plan

Norlite has previously developed and placed in the operating record a Startup, Shutdown and Malfunction Plan (SSMP) in accordance with 63.6(e)(3) and 63.1206(c)(2)(ii)(B). The SSMP describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; and a program of corrective action for malfunctioning process and monitoring equipment used to comply with the relevant standard.

2.2.8.2 Operation and Maintenance Plan

Norlite has previously developed and placed in the operating record an Operation and Maintenance Plan (O&M Plan) in accordance with 63.1206(c)(7). The O&M Plan describes in detail procedures for operation, inspection, maintenance, and corrective measures for all components of the combustion system that could affect emissions of regulated hazardous air pollutants. The plan prescribes how the facility operates and maintains the combustor in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels achieved during the CPT. This plan ensures compliance with the operation and maintenance requirements of 63.6(e) and minimizes emissions of pollutants, automatic waste feed cutoffs, and malfunctions.

2.2.8.3 CMS QC Program Plan

Norlite has previously prepared and currently operates under a CMS quality control (QC) Program Plan as required by 40 CFR 63.8(c)(3), 63.8(d) and the Appendix to Subpart EEE. This document provides detailed instrument specifications and audit and calibration procedures for all of the continuous monitoring instrumentation (including the continuous emission monitors) associated with the LWAK systems.

2.2.8.4 Feed Stream Analysis Plan

Norlite has previously updated and revised the RCRA waste analysis plan (WAP) such that it now incorporates all required elements of a MACT Feed Stream Analysis Plan (FSAP). The FSAP specifies the following information relative to Norlite's LLGF hazardous waste stream:

- Parameters to be analyzed;
- How the data are obtained (i.e., direct sampling and analysis or from other sources);
- How the data will be used to document compliance with applicable feed rate limits;
- Test methods used;
- Sampling methods used to ensure collection of representative samples; and
- Frequency of analyses.

2.2.8.5 Operator Training and Certification

Norlite has previously developed and implemented an Operator Training and Certification (OTC) Program as required by 40 CFR 63.1206(c)(6). The OTC program is designed to provide training to all personnel whose activities may reasonably be expected to directly affect emissions of hazardous air pollutants from the combustion system. Control room operators are trained and certified in accordance with 40 CFR 63.1206(c)(6)(iii). At least one certified control room operator is on duty at the site at all times while the unit is in operation.

2.2.9 Certification

Norlite Corporation hereby certifies that:

- (i) All required CEMS and CMS are installed, calibrated and continuously operating in compliance with the requirements of Subpart EEE;
- (ii) Based on the results of comprehensive performance testing conducted in October 2010 and January 2011, the LWAKs are operating in compliance with the emission standards and operating requirements of 40 CFR Part 63 Subpart EEE; and
- (iii) The OPLs required by 40 CFR 63.1209 and specified in this NOC ensure compliance with the emission standards.

Signature:
Name: Mr. William Morris
Title: Vice President of Environmental Affairs
Date:

3.0 Introduction and Process Description

3.1 Introduction and Project Background

The Norlite facility is subject to the HWC MACT rule promulgated by the U.S. EPA on September 30, 1999 in 40 CFR 63 Subpart EEE. Initial comprehensive performance testing to document compliance with the interim standards was performed in March, June and July 2004.

In preparation for this test program, Norlite submitted a series of plans and negotiated on a number of issues in order to result in an overall test protocol that was acceptable to all parties. The CPT was conducted in accordance with the final approved CPT Plan, Revision 2, dated August 6, 2010. Comprehensive performance testing to document compliance with the LWAK replacement standards was performed in October 2010 and January 2011.

3.2 Facility Overview

The Norlite facility produces an expanded shale aggregate in two dry process rotary kilns. Raw materials are quarried on-site and transported to the kiln via a conveyor system. The basic material (shale) is proportioned and stored in a silo. The raw product is introduced to the kiln at the feed (back) end from the silo, while fuels are fed from the opposite end. Calcination of the product occurs at a product temperature of 1,700°F to 2,000°F. The shale is then heated to the point of incipient fusion where it is in a semi-plastic state to expand internal gases, thereby creating voids. The cooled vitreous clinker is then discharged and stockpiled. In addition, a comprehensive air pollution control system is operated to comply with all emission standards.

3.3 Process Description

This section presents a summary description of the Norlite LWAK systems. Brief descriptions for each major section of the overall combustion system are provided below. Further details can be found in the aforementioned CPT Plan.

3.3.1 Rotary Kilns

Kiln No. 1, manufactured by Traylor, is 175 feet long. Kiln No. 2, manufactured by Allis-Chalmers, is 180 feet long. Both kilns have an outside diameter of 11 feet and consist of a steel shell lined with 6-inch refractory brick, for an effective inside diameter of 10 feet. The burn zone extends approximately 30 feet from the burner end of the kiln. The burning zone gas temperature is maintained at 2,200°F to 3,000°F.

The rated capacity of each kiln is approximately 25 tons per hour (tph) clinker. Typically, 2.5 x 10⁶ Btu are required to produce one ton of clinker at maximum capacity. In order to achieve a quality lightweight aggregate product, the kiln is normally operated at approximately 8% to 10% oxygen at the back-end with carbon monoxide concentrations less than 100 parts per million (ppm).

3.3.2 Waste Feed Systems

3.3.2.1 Liquid Waste Feed

LLGF is maintained in nitrogen blanketed, storage tanks and is delivered to the kiln through a pumping station to maintain an approximate maximum feed rate of 10.3 gallon per minute (gpm) to each burner. The burner consists of a stainless steel outer pipe that supplies atomization air or steam and a 3 /₈-inch diameter carbon steel inner pipe. This burner uses high-pressure air or steam atomization to inject the material directly into the combustion zone. The LLGF burner is rated at 10.3 gpm at 35 psi line pressure and is monitored continuously with a Micromotion doppler flow meter.

3.3.2.2 Solid Feed Materials

The basic feed material is shale, which is proportioned and stored in a covered silo and then fed directly to the kiln. The shale is introduced at the back end of the kiln (countercurrent to the waste fuels that are fed from the opposite end). No solid <u>waste</u> materials are fed to the kiln.

3.3.2.3 Process Vent Streams

There are two (2) process vent streams that are sent to the kiln for incineration. The first stream is the vent from the nitrogen blanketed LLGF storage tanks. During the filling cycles of the storage tanks, any excess gaseous vapors are vented through a closed loop system to the burner end of the kiln. The second stream consists of vented material from the drum handling operations. Drums are emptied via a vacuum system. The vacuum system vents to the kiln and also includes general drum area vapors under negative ventilation. This vent stream is mixed with ambient air and is used as primary combustion air for the burner.

3.3.2.4 Supplemental Fuels

Natural gas, fuel oils or used oil are used to preheat the kiln during start-up and may also be used as supplemental fuel while firing LLGF. Natural gas or fuel oil may also be used as a pilot when firing LLGF. Fuel oil or used oil may also be blended with LLGF when firing to increase heat content of the waste feed and improve combustion characteristics. In cases where fuel oil or used oil is fired with LLGF, the metals content of the fuel oil is taken into account in demonstrating compliance with condition 1E of Attachment C of the current Part 373 Permit.

3.3.3 Air Pollution Control Equipment

Both kilns have identical emission control systems that include both wet and dry emission control devices for the collection and removal of particulate matter, hydrogen chloride (HCl), metals and other gaseous emission products. The principal collection mechanisms are sedimentation, condensation, impaction, filtration and interception for particulate matter and metals and absorption for HCl and other gaseous species. The overall air pollution control system (APCS) also includes forced draft fans, an induced draft fan and exhaust stack, each of which is described below. It is also noted that neither kiln is equipped with any type of emergency safety vent.

3.3.3.1 Multiclone

Kiln emissions first pass through a mechanical collector to remove large particulate matter, a Barrons multiple cyclone unit (multiclone) incorporating relatively small diameter cyclones operating in parallel with a common inlet and outlet. The multiclone is provided to remove coarse particulate matter and is rated for 2-3 in. w.c. pressure drop. Dust collected in the multiclone accumulates in a hopper. It is air

conveyed and combines with the baghouse fines, which are added to the light weight aggregate becoming part of the product.

3.3.3.2 Heat Exchanger

The kiln flue gas then passes through an air to air heat exchanger rated at 65,000 actual cubic feet per minute (acfm). This unit was redesigned in late 1999 / early 2000 and now uses two (2) forced draft fans for providing ambient air as the cooling medium. Gases enter the heat exchanger at approximately 900°F to 1,100°F and exit at 400 - 460°F with a 2-3 inch water column (w.c.) pressure drop across the unit. The existing fan supplies air to the bottom exchanger shell and a second (newer) fan supplies ambient air directly to the top exchanger shell. A damper provides cooling air to control temperature if the inlet temperature to the baghouse is higher than desired. The damper is under negative pressure since it is upstream of the induced draft fan. The damper does not function as an emergency bypass to the air pollution control system. There is no such bypass or "dump stack" in the entire kiln process.

3.3.3.3 Fabric Filtration with Hydrated Lime Addition

Following the heat exchanger is an Aeropulse, Inc. Power Pulse Collector (fabric filter or baghouse) with three modules and 17,334 square feet of filter area. The unit is rated for 52,700 acfm at 450°F. The air cloth ratio is 3.04:1 with all three modules operating and 4.50:1 with one down for maintenance. Teflon impregnated woven fiberglass with a permeability of approximately 10 cfm per square foot at 0.5 in. w.c. is used as the filter media. The filter media is continuously pulsed one row at a time, controlled by a timer. A modulating air damper automatically adjusts inlet gas temperatures (if required) to less than 400°F by bleeding in ambient air directly into the flue gas before entering the baghouse. An automatic waste feed cutoff is activated if baghouse inlet temperature exceeds 400°F, since this is the Part 373 Permit limit. Pressure drop across the unit is rated between 2-10 in. w.c., with all three modules on-line.

Hydrated lime $[Ca(OH)_2]$, stored in a 2,500 cubic foot silo, is injected into the APCS immediately prior to the baghouse. This is primarily to control sulfur dioxide (SO_2) and sulfuric acid (H_2SO_4) mist from the combustion of LLGF in the kiln and to protect the baghouse from resulting corrosion. The lime also neutralizes hydrogen chloride, providing approximately 80% of the removal prior to the wet scrubber. The baghouse is designed to control 60% of the SO_2 and sulfur trioxide (SO_3) introduced from the kiln. Lime feed varies from near zero to 1,200 pounds per hour, depending upon the fuel type and feed rate. Typical lime specifications are as follows:

- Calcium oxide 73.6%
- Surface area 19,500 cm²/g
- Mean particle diameter 1.37 μm
- Bulk density (loose / tamped) 17.6 / 37.0 lb/ft³

Fines collected in each cell of the baghouse are discharged via a rotary air lock. The fines are conveyed and combined with the multiclone fines to one of two storage silos. Fines from both silos are added to the light weight aggregate, becoming part of the product. The baghouse is also equipped with a bag leak detection system as required by 40 CFR 63.1206(c)(8)(ii). This system is a BHA Group, Inc. CPM-750 Particulate Detection System that is fully certified to comply with EPA bag leak detection system guidelines of responding to mass emissions at concentrations of 1.0 mg/m³.

3.3.3.4 Venturi Scrubber

The ID fan carries exhaust gases to a BECO Venturi (MMV) high energy wet scrubber for acid gas removal. This unit is rated for 53,000 acfm at 450°F at the inlet and 38,600 acfm at 138°F at the outlet, with 2 to 6 in. w.c. pressure drop. The scrubber is a rod design that has tubular stainless steel rods and baffles installed in rows across the throat. The intent is to provide high turbulence like the effect of a small venturi throat without incurring the high pressure drop typically associated with conventional high efficiency venturi scrubbers. Additionally, the tubes and baffles provide additional impaction surfaces for enhanced particulate and HCl collection. The scrubber is designed for 99% HCl and 68% SO₂ removal efficiencies.

Clean water headers are located directly above the venturi to provide sensible cooling to the exhaust system. Caustic sodium carbonate (soda ash) or sodium hydroxide solution, comprised of a maximum of 10% dissolved solids (sodium carbonate, sodium chloride and/or sodium sulfate), is recycled through the unit at approximately 200 gpm. It is introduced through nozzles located below the water headers and directly above the MMV module. Scrubbing solution is also injected into the transition segment located between the venturi MMV and Ducon units. Excess water drains from the venturi exit elbow to the 1,000-gallon settling/recycle tank. The pH of the solution in the recycle tank is continuously monitored by a pH probe and automatically maintained at pH 7.9 or greater. The pH is adjusted by the introduction of 5% to 10% sodium carbonate or sodium hydroxide solution to the venturi feed at a typical rate of 3 to 25 gpm depending on actual pH readings. Blowdown is taken from the blowdown pump discharge to maintain a constant solids concentration in the solution. Blowdown is typically in the range of 4.4 to 30.0 gpm, depending on the quantity of fuel burned as well as the chloride and sulfur contents.

3.3.3.5 Ducon Mist Eliminator

Following the BECO MMV unit is a BECO/QUAD MMV mist eliminator installed in the bottom of the Ducon unit. The unit is designed to capture entrained droplets of caustic solution exiting the BECO scrubber. This unit is rated for a pressure drop of 1.5 to 4 in. w.c. This mist eliminator drains into the recycle tank.

A further modification of the Ducon unit consists of two plastic mesh yock mist eliminator pads (or the equivalent) segmented by a baffle controlling velocity across each pad face. This mist eliminator is located at the top of the unit immediately preceding the exhaust stack. Water sprays on the pad flush solids into the unit for capture in the bottom. The Ducon unit functions as an entrainment separator for the venturi scrubber.

3.3.3.6 Induced and Forced Draft Fans

The baghouse is followed by a Barron 400 horse power (HP) system fan which induces draft through the kiln, multiclone, heat exchanger and baghouse and provides forced draft on the exhaust gases through the venturi scrubber and Ducon mist elimination units. The ID fan is rated at 53,000 acfm at 450°F. Secondary combustion air is supplied by forced draft clinker cooler fans rated at a total of 25,000 scfm. The secondary combustion air is preheated by the clinker cooler at the front end of the kiln.

3.3.3.7 Exhaust Stack

Scrubbed kiln exhaust passes to the atmosphere via a 48 inch diameter fiberglass-reinforced plastic (FRP) stack 120 feet above grade at approximately 46,000 acfm at 130°F and 15% moisture (v/v). Two access platforms are provided for stack sampling.

3.4 Process Monitoring

Each kiln is manned on a 24-hr basis by the burner operator. Assisting the burner operator on each shift is one kiln field operator and one mechanic who are responsible for activities outside of the control room and away from the burner floor area. The facility has implemented an OTC Program in accordance with 40 CFR 63.1206(c)(6) and conducts operations in accordance with their O&M Plan as per 40 CFR 63.1206(c)(7). In the event of a power failure, all systems shutdown including, but not limited to, LLGF flow, fuel farm feed systems, raw shale feed, main flame, etc. All systems require a manual reset. In order to restart, the following must take place:

- 1. Pilot with virgin fuel such as natural gas.
- 2. Prove positive of flame.
- 3. Manual restart/reset of system at fuel pumping area at tank farm.

3.4.1 Burner Flame-Out

The kiln is manned around-the-clock by the burner operator who is constantly monitoring operations. Any flame-out is immediately detectable by loss of temperature on the kiln temperature recorder. The temperature within the kiln and the kiln refractory will provide sufficient heat to maintain a burn zone temperature in excess of 2,000°F for at least 5 minutes in the event of loss of flame. In order to restart after this occurrence, the same procedure previously described for a power failure must be utilized.

The main flame of the kiln is either self-sustaining or sustained by the presence of a virgin fuel pilot. Both the main flame and the pilot flame are monitored by an electronic eye to provide positive proof that a flame exists. In the event of a loss of signal by the electronic eye, the virgin fuel feed to the pilot, the main natural gas valve, the LLGF AWFCO valve, and the used oil feed valve are closed and a manual reset is required to re-establish a proof positive flame. Should operating parameters fall outside the operating window during a flame failure, a virgin fuel is fired to bring all operating parameters within the operating window prior to commencing LLGF feed.

3.4.2 Automatic Waste Feed Cutoff System

Kiln process operations are controlled from a central control room by an operator who oversees a computer-based control system. In addition to routine fail-safe features, a series of waste feed cut-offs are programmed into the control system to assure that LLGF is only fed to the kiln under prescribed conditions. This ensures that wastes are properly destroyed and exhaust gases suitably treated before discharge to the environment. Any deviation from prescribed conditions results in immediate interruption (i.e., cut-off) of hazardous waste feed to the kiln. For any other non AWFCO operational deviations, the standard operating procedure is to shutdown the LLGF feed, switch to natural gas or fuel oil, define the problem and initiate corrective action. Items such as scrubber or baghouse malfunction, loss of atomizing air/steam, ID fan loss, etc. would be covered by this operating procedure. The loss of the ID fan would warrant the shutdown of the entire process to avoid damage to the APC system. As long as the ID fan runs, however, the kiln is maintained under negative static pressure eliminating the possibility of fugitive emissions.

3.4.3 Continuous Monitoring Systems

A variety of process parameters are monitored to ensure ongoing compliance with applicable MACT standards. Continuous monitors are used to track all of the operating parameters summarized previously in Table 2-5.

3.4.4 Continuous Emissions Monitoring System

Oxygen and carbon monoxide are monitored continuously at the outlet from the baghouse and recorded digitally in the CEMS and in the kiln computers. In addition, there are flue gas flow monitors on the stack of each kiln. A brief description of each of the CEMS and flowrate instruments is provided in **Table 3-1**.

Table 3-1 Continuous Emission Monitoring Instrumentation

Instrument	Instrument Manufacturer		Model No.	Serial No.
Kiln No. 1				
CO # 1	Siemens / CISCO	0-200 and 0- 3,000 ppm	Ultramat 5E	B7-889
CO#2	Siemens / CISCO	0-200 and 0- 3,000 ppm	Ultramat 5E	B7-890
O ₂ # 1	Siemens / CISCO	0-25%	Oxymat 5E	B7-066
O ₂ # 2	Siemens / CISCO	0-25%	Oxymat 5E	B7-067
Gas Flow Meter	Fluid Components International, LLC	0 – 86,000 wet scfm	GF90	246163
Kiln No. 2				
CO # 1	Siemens / CISCO	0-200 and 0- 3,000 ppm	Ultramat 5E	XO7-400
CO # 2	Siemens / CISCO	0-200 and 0- 3,000 ppm	Ultramat 5E	F6-187
O ₂ # 1	Siemens / CISCO	0-25%	Oxymat 5E	AO2-611
O ₂ # 2	Siemens / CISCO	0-25%	Oxymat 5E	F6-279
Gas Flow Meter	Fluid Components International, LLC	0 – 86,000 wet scfm	GF90	247854

4.0 Process Operating Conditions

4.1 Overview of Planned Test Conditions

Norlite's 2010/2011 CPT was designed to demonstrate performance for the Norlite LWAK systems through implementation of a comprehensive emission measurement program using a combination of actual and surrogate feed materials. The CPT was originally planned to be conducted under two process operating conditions to enable demonstration of all required emission levels and process monitoring requirements. Following the first campaign in October 2010, two additional test conditions were planned for January 2011, one of which included a DRE demonstration. Three (3) sampling runs were conducted during each test condition. It is noted that the same basic LLGF waste feed material was used during each test. The four test conditions are described below followed by a chronological description of each test with more details provided.

Condition 1 served to establish a minimum kiln back-end temperature and a maximum total (pumpable) waste feed throughput. Emission measurements during Condition 1 included PCDDs/PCDFs only.

Condition 2 served to establish a maximum throughput of constituents (metals and chlorine) as well as total (pumpable) waste feed throughput. This condition included a maximum chlorine input level and maximum feed levels for inorganic (metals) constituents. Emission measurements during Condition 2 included metals, particulate matter, HCl/Cl₂ and PCDDs/PCDFs. Although it is not a MACT operating condition, this test was also performed at the maximum back end temperature in order to cause maximum volatilization of metals.

Condition 1RT (Condition 1 retest) was necessitated after determining that the PCDD/PCDF emissions measured during the original Condition 1 had exceeded the MACT standard. Condition 1RT duplicated the objectives established for Condition 1 and also served to establish a minimum kiln back-end temperature and a maximum total (pumpable) waste feed throughput. Emission measurements during Condition 1RT included PCDDs/PCDFs only.

Condition 1A was added to the program since the kiln would be operating at a minimum back-end temperature for Condition 1RT and also because Norlite desired to revise certain OPLs associated with DRE testing. Condition 1A also served to establish a minimum kiln back-end temperature and a maximum total (pumpable) waste feed throughput. Emission measurements during Condition 1 included PCDDs/PCDFs, DRE testing and continuous measurement of total hydrocarbons (THC). Monochlorobenzene (MCB) served as the principal organic hazardous constituent (POHC) that was fed to the system during this test.

A <u>chronological</u> discussion of each test condition is also provided below along with additional information on emission measurements and process operating conditions.

4.1.1 Test Condition 2

Condition 2 was designed to establish a maximum throughput of constituents (metals and chlorine) as well as total (pumpable) waste feed throughput. This condition included a maximum chlorine input level and maximum feed levels for inorganic (metals) constituents. Emission measurements during

Condition 2 included metals, particulate matter, HCl/Cl₂ and PCDDs/PCDFs. Although it is not a MACT operating condition, this test was performed at the maximum back end temperature in order to cause maximum volatilization of metals. Test Condition 2 was successfully completed on October 19, 2010. No process interruptions occurred during Condition 2 testing.

4.1.2 Test Condition 1

Condition 1 was designed to establish a minimum kiln back-end temperature and a maximum total (pumpable) waste feed throughput. Emission measurements during Condition 1 included PCDDs/PCDFs only. Test Condition 1 was completed on October 20-21, 2010. Subsequent analytical results indicated a higher than expected PCDD/PCDF emission rate and Condition 1 was scheduled to be retested in January 2011. No process interruptions occurred during the original Condition 1 testing.

4.1.3 Test Condition 1RT

Due to the higher than expected PCDD/PCDF emission rate during the original Condition 1 test in October 2010, a retest was performed in January 2011. This retest was referred to as Condition 1RT and entailed emission measurements for PCDDs/PCDFs only. Condition 1RT was successfully completed on January 11-12, 2011. No process interruptions occurred during Condition 1RT.

4.1.4 Test Condition 1A

Condition 1A was added to the program since the kiln would be operating at a minimum back-end temperature for Condition 1RT and also because Norlite desired to revise certain OPLs associated with the original Condition 1 testing done during the 1999 RCRA trial burn. Condition 1A also served to establish a minimum kiln back-end temperature and a maximum total (pumpable) waste feed throughput. Emission measurements during Condition 1A included PCDDs/PCDFs, DRE testing and continuous measurement of THC. MCB served as the POHC for the DRE test and since this organic compound is not typically present in the LLGF stream, it was injected into the LLGF feed line by a third party contractor. Triad Chemicals LLC of Greensboro, NC was retained to perform the MCB spiking. Triad supplied all MCB material and spiking equipment for the test. The target feed rate of MCB was initially planned to be 60 lb/hr, but this was increased to around 75 lb/hr in the latter two runs to boost the chlorine loading to the kiln. Condition 1A was successfully completed on January 12-13, 2011. No process interruptions occurred during Condition 1A testing.

4.2 Facility Monitoring Data

Throughout this comprehensive test program, detailed process information was collected continuously by the facility's process control computers and DAS. **Tables 4-1 and 4-2** provide summaries of process data for both test conditions conducted in October 2010, including minimum, maximum and average values for key process variables recorded during all sampling run periods. **Tables 4-3 and 4-4** provide similar information for the Condition 1RT and 1A tests conducted in January 2011. Detailed one-minute process data summaries for all tests are included in **Appendix A**. Detailed information on the CMS performance evaluation conducted on all process instrumentation prior to both CPT test programs (in accordance with Section 6.0 of the approved CPT Plan) is included in **Appendix B**.

Table 4-1 Process Operating Data Summary – Condition 2

			C2-R1		C2-R2			
	Date	19-Oct-10			 	19-Oct-10		
	Start		10:58			14:40		
Kiln 1 Operating Parameters (a)	Stop		14:00			17:42		
rum i Operating rarameters (a)	Units	AVG	MIN	MAX	AVG	MIN	MAX	
Process & CEM Parameters		7110						
LLGF Feed Rate (HRA)	gpm	10.2	10.1	10.3	10.2	10.0	10.3	
LLGF Atomization Pressure (HRA)	psi	55.2	52.4	68.2	71.0	65.8	76.1	
Shale Feed Rate (HRA)	tph	22.1	21.7	22.8	22.8	22.8	22.8	
Back End Temperature (HRA)	°F	1,003	996	1,009	995	980	1,014	
Heat Exchanger Exit Temp. (HRA)	°F	450	447	452	450	448	452	
Flue Gas Flow rate (HRA)	w et scfm	35.170	34,631	35,534	36,030	35,009	37,046	
CO Conc. @ 7% O ₂ (HRA)	ppm	44.1	41.0	49.0	40.3	40.0	41.0	
O ₂ Concentration (HRA)	%	15.4	15.4	15.5	15.3	15.3	15.4	
APCS Parameters	,,				10.0	10.0		
Baghouse Inlet Temperature (HRA)	°F	400	398	403	400	399	402	
Venturi Pressure Drop (HRA)	in. w.c.	6.1	6.0	6.2	6.1	6.0	6.1	
Scrubber Recirculation Rate (HRA)	gpm	177.2	174.0	181.0	173.7	173.0	175.0	
Scrubber Blow down Rate (HRA)	gpm	16.0	13.3	22.2	14.6	12.8	17.2	
Scrubber Liquid pH (HRA)	pH	8.1	7.8	8.4	8.1	8.0	8.2	
Scrubber Tank Liquid Level (HRA)	% Ht.	60.1	55.8	71.5	57.5	56.3	59.0	
Lime Feed Rate (HRA)	lb/hr	250.0	250.0	250.0	250.0	250.0	250.0	
Lime Carrier Fluid Flow Rate (HRA)	scfm	151.7	151.6	152.6	151.9	151.8	152.2	
Ducon Pressure Drop (HRA)	in. w.c.	3.5	3.5	3.6	3.5	3.5	3.5	
, , ,			C2-R3			l.		
	Date		19-Oct-10		MACT CPT 2010			
	Start		17:58		Oct	October 19, 2010		
Kiln 1 Operating Parameters (a)	Stop		21:00		Cond	Condition 2 Averages		
, ,	Units	AVG	MIN	MAX	AVG	MIN MAX		
Process & CEM Parameters								
LLGF Feed Rate (HRA)	gpm	10.2	10.1	10.3	10.2	10.1	10.3	
LLGF Atomization Pressure (HRA)	psi	55.9	51.8	65.5	60.7	56.7	69.9	
Shale Feed Rate (HRA)	tph	22.8	22.8	22.9	22.6	22.4	22.8	
Back End Temperature (HRA)	°F	972	966	978	990	981	1,000	
Heat Exchanger Exit Temp. (HRA)	°F	450	448	451	450	448	452	
Flue Gas Flow rate (HRA)	w et scfm	35,874	35,198	36,962	35,691	34,946	36,514	
CO Conc. @ 7% O ₂ (HRA)	ppm	40.8	39.0	41.0	41.7	40.0	43.7	
O ₂ Concentration (HRA)	%	15.3	15.3	15.4	15.3	15.3	15.4	
APCS Parameters								
Baghouse Inlet Temperature (HRA)	°F	400	399	401	400	399	402	
Venturi Pressure Drop (HRA)	in. w .c.	6.1	6.1	6.1	6.1	6.0	6.1	
Scrubber Recirculation Rate (HRA)	gpm	173.2	173.0	174.0	174.7	173.3	176.7	
Scrubber Blow dow n Rate (HRA)	gpm	13.2	12.9	13.4	14.6	13.0	17.6	
Scrubber Liquid pH (HRA)	рН	8.1	7.8	8.4	8.1	7.9	8.3	
	0/ 14	56.3	55.2	57.7	58.0	55.8	62.7	
Scrubber Tank Liquid Level (HRA)	% Ht.	50.5						
	% Ht. lb/hr	250.0	250.0	250.0	250.0	250.0	250.0	
Scrubber Tank Liquid Level (HRA)				250.0 152.2 3.5	250.0 151.8 3.5	250.0 151.7 3.5	250.0 152.3	

(a) HRA = Hourly Rolling Average INST = Instantaneous

Table 4-2 Process Operating Data Summary – Condition 1

		C1-R1		C1-R2				
	Date	20-Oct-10			20-Oct-10			
	Start		09:30			13:00		
Kiln 1 Operating Parameters (a)	Stop		12:32			16:02		
(4)	Units	AVG	MIN	MAX	AVG	MIN	MAX	
Process & CEM Parameters								
LLGF Feed Rate (HRA)	gpm	10.1	10.0	10.3	10.3	10.2	10.3	
LLGF Atomization Pressure (HRA)	psi	56.0	50.8	59.2	53.1	51.1	57.7	
Shale Feed Rate (HRA)	tph	23.2	22.8	23.3	23.3	23.3	23.3	
Back End Temperature (HRA)	°F	865	864	868	867	865	868	
Heat Exchanger Exit Temp. (HRA)	°F	450	447	451	452	451	452	
Flue Gas Flow rate (HRA)	w et scfm	33,857	33,539	34,337	33,844	33,245	34,379	
CO Conc. @ 7% O ₂ (HRA)	ppm	28.5	28.0	29.0	32.9	30.0	35.0	
O ₂ Concentration (HRA)	%	14.9	14.8	15.1	15.0	14.9	15.1	
APCS Parameters								
Baghouse Inlet Temperature (HRA)	°F	400	399	401	400	399	401	
Venturi Pressure Drop (HRA)	in. w.c.	5.6	5.3	5.7	5.9	5.8	5.9	
Scrubber Recirculation Rate (HRA)	gpm	174.3	173.0	175.0	173.0	173.0	173.0	
Scrubber Blow down Rate (HRA)	gpm	13.4	12.1	13.7	13.6	13.3	14.4	
Scrubber Liquid pH (HRA)	pН	8.0	8.0	8.0	8.0	8.0	8.0	
Scrubber Tank Liquid Level (HRA)	% Ht.	56.5	56.1	56.9	56.4	56.1	56.9	
Lime Feed Rate (HRA)	lb/hr	250.0	250.0	250.0	250.0	250.0	250.0	
Lime Carrier Fluid Flow Rate (HRA)	scfm	149.3	148.7	149.8	149.9	149.8	150.0	
Ducon Pressure Drop (HRA)	in. w.c.	3.2	3.0	3.3	3.3	3.3	3.4	
			C1-R3					
	Date		21-Oct-10		MACT CPT 2010			
	Start		09:04		Octo	ber 20-21,	er 20-21, 2010	
Kiln 1 Operating Parameters (a)	Stop		12:07 Condition 1 Average			ranes		
	Units		.=		 		ages	
	Units	AVG	MIN	MAX	AVG		MAX	
Process & CEM Parameters	Onits	AVG		MAX	AVG			
Process & CEM Parameters LLGF Feed Rate (HRA)	gpm	10.5		MAX 10.6	AVG 10.3			
			MIN			MIN	MAX	
LLGF Feed Rate (HRA)	gpm	10.5	MIN 10.3	10.6	10.3	MIN 10.2	MAX 10.4	
LLGF Feed Rate (HRA) LLGF Atomization Pressure (HRA)	gpm psi	10.5 34.0	10.3 33.7	10.6 35.1	10.3 47.7	10.2 45.2	MAX 10.4 50.7	
LLGF Feed Rate (HRA) LLGF Atomization Pressure (HRA) Shale Feed Rate (HRA)	gpm psi tph	10.5 34.0 24.8	10.3 33.7 24.8	10.6 35.1 24.8	10.3 47.7 23.8	10.2 45.2 23.6	10.4 50.7 23.8	
LLGF Feed Rate (HRA) LLGF Atomization Pressure (HRA) Shale Feed Rate (HRA) Back End Temperature (HRA) Heat Exchanger Exit Temp. (HRA) Flue Gas Flow rate (HRA)	gpm psi tph °F	10.5 34.0 24.8 866	10.3 33.7 24.8 865	10.6 35.1 24.8 867	10.3 47.7 23.8 866	10.2 45.2 23.6 865	10.4 50.7 23.8 868	
LLGF Feed Rate (HRA) LLGF Atomization Pressure (HRA) Shale Feed Rate (HRA) Back End Temperature (HRA) Heat Exchanger Exit Temp. (HRA) Flue Gas Flow rate (HRA) CO Conc. @ 7% O ₂ (HRA)	gpm psi tph °F °F wet scfm ppm	10.5 34.0 24.8 866 450 32,193 28.6	10.3 33.7 24.8 865 448 31,481 28.0	10.6 35.1 24.8 867 451 36,269 30.0	10.3 47.7 23.8 866 451	10.2 45.2 23.6 865 449	10.4 50.7 23.8 868 451 34,995 31.3	
LLGF Feed Rate (HRA) LLGF Atomization Pressure (HRA) Shale Feed Rate (HRA) Back End Temperature (HRA) Heat Exchanger Exit Temp. (HRA) Flue Gas Flow rate (HRA) CO Conc. @ 7% O ₂ (HRA) O ₂ Concentration (HRA)	gpm psi tph °F °F wet scfm	10.5 34.0 24.8 866 450 32,193	10.3 33.7 24.8 865 448 31,481	10.6 35.1 24.8 867 451 36,269	10.3 47.7 23.8 866 451 33,298	10.2 45.2 23.6 865 449 32,755	10.4 50.7 23.8 868 451 34,995	
LLGF Feed Rate (HRA) LLGF Atomization Pressure (HRA) Shale Feed Rate (HRA) Back End Temperature (HRA) Heat Exchanger Exit Temp. (HRA) Flue Gas Flow rate (HRA) CO Conc. @ 7% O ₂ (HRA) O ₂ Concentration (HRA) APCS Parameters	gpm psi tph °F °F wet scfm ppm %	10.5 34.0 24.8 866 450 32,193 28.6 14.5	10.3 33.7 24.8 865 448 31,481 28.0 14.4	10.6 35.1 24.8 867 451 36,269 30.0 14.7	10.3 47.7 23.8 866 451 33,298 30.0 14.8	MIN 10.2 45.2 23.6 865 449 32,755 28.7 14.7	MAX 10.4 50.7 23.8 868 451 34,995 31.3 15.0	
LLGF Feed Rate (HRA) LLGF Atomization Pressure (HRA) Shale Feed Rate (HRA) Back End Temperature (HRA) Heat Exchanger Exit Temp. (HRA) Flue Gas Flow rate (HRA) CO Conc. @ 7% O ₂ (HRA) O ₂ Concentration (HRA) APCS Parameters Baghouse Inlet Temperature (HRA)	gpm psi tph °F °F wet scfm ppm	10.5 34.0 24.8 866 450 32,193 28.6 14.5	10.3 33.7 24.8 865 448 31,481 28.0 14.4	10.6 35.1 24.8 867 451 36,269 30.0 14.7	10.3 47.7 23.8 866 451 33,298 30.0 14.8	MIN 10.2 45.2 23.6 865 449 32,755 28.7	10.4 50.7 23.8 868 451 34,995 31.3	
LLGF Feed Rate (HRA) LLGF Atomization Pressure (HRA) Shale Feed Rate (HRA) Back End Temperature (HRA) Heat Exchanger Exit Temp. (HRA) Flue Gas Flow rate (HRA) CO Conc. @ 7% O ₂ (HRA) O ₂ Concentration (HRA) APCS Parameters Baghouse Inlet Temperature (HRA) Venturi Pressure Drop (HRA)	gpm psi tph °F °F wet scfm ppm %	10.5 34.0 24.8 866 450 32,193 28.6 14.5 400 5.1	10.3 33.7 24.8 865 448 31,481 28.0 14.4 399 5.0	10.6 35.1 24.8 867 451 36,269 30.0 14.7 401 5.5	10.3 47.7 23.8 866 451 33,298 30.0 14.8 400 5.5	MIN 10.2 45.2 23.6 865 449 32,755 28.7 14.7 399 5.4	MAX 10.4 50.7 23.8 868 451 34,995 31.3 15.0	
LLGF Feed Rate (HRA) LLGF Atomization Pressure (HRA) Shale Feed Rate (HRA) Back End Temperature (HRA) Heat Exchanger Exit Temp. (HRA) Flue Gas Flow rate (HRA) CO Conc. @ 7% O ₂ (HRA) O ₂ Concentration (HRA) APCS Parameters Baghouse Inlet Temperature (HRA) Venturi Pressure Drop (HRA) Scrubber Recirculation Rate (HRA)	gpm psi tph °F °F wet scfm ppm %	10.5 34.0 24.8 866 450 32,193 28.6 14.5 400 5.1 172.8	10.3 33.7 24.8 865 448 31,481 28.0 14.4 399 5.0	10.6 35.1 24.8 867 451 36,269 30.0 14.7 401 5.5	10.3 47.7 23.8 866 451 33,298 30.0 14.8 400 5.5	MIN 10.2 45.2 23.6 865 449 32,755 28.7 14.7 399 5.4 172.7	MAX 10.4 50.7 23.8 868 451 34,995 31.3 15.0	
LLGF Feed Rate (HRA) LLGF Atomization Pressure (HRA) Shale Feed Rate (HRA) Back End Temperature (HRA) Heat Exchanger Exit Temp. (HRA) Flue Gas Flow rate (HRA) CO Conc. @ 7% O ₂ (HRA) O ₂ Concentration (HRA) APCS Parameters Baghouse Inlet Temperature (HRA) Venturi Pressure Drop (HRA) Scrubber Recirculation Rate (HRA)	gpm psi tph °F °F wet scfm ppm % °F in. w.c. gpm gpm	10.5 34.0 24.8 866 450 32,193 28.6 14.5 400 5.1 172.8 13.1	10.3 33.7 24.8 865 448 31,481 28.0 14.4 399 5.0 172.0	10.6 35.1 24.8 867 451 36,269 30.0 14.7 401 5.5 173.0	10.3 47.7 23.8 866 451 33,298 30.0 14.8 400 5.5 173.4	MIN 10.2 45.2 23.6 865 449 32,755 28.7 14.7 399 5.4 172.7 12.8	MAX 10.4 50.7 23.8 868 451 34,995 31.3 15.0 401 5.7	
LLGF Feed Rate (HRA) LLGF Atomization Pressure (HRA) Shale Feed Rate (HRA) Back End Temperature (HRA) Heat Exchanger Exit Temp. (HRA) Flue Gas Flow rate (HRA) CO Conc. @ 7% O ₂ (HRA) O ₂ Concentration (HRA) APCS Parameters Baghouse Inlet Temperature (HRA) Venturi Pressure Drop (HRA) Scrubber Recirculation Rate (HRA) Scrubber Blow down Rate (HRA) Scrubber Liquid pH (HRA)	gpm psi tph °F °F wet scfm ppm % °F in. w.c. gpm gpm pH	10.5 34.0 24.8 866 450 32,193 28.6 14.5 400 5.1 172.8 13.1 8.0	10.3 33.7 24.8 865 448 31,481 28.0 14.4 399 5.0 172.0 12.9 8.0	10.6 35.1 24.8 867 451 36,269 30.0 14.7 401 5.5 173.0 13.2 8.0	10.3 47.7 23.8 866 451 33,298 30.0 14.8 400 5.5 173.4 13.4 8.0	MIN 10.2 45.2 23.6 865 449 32,755 28.7 14.7 399 5.4 172.7 12.8 8.0	10.4 50.7 23.8 868 451 34,995 31.3 15.0 401 5.7 173.7 13.8 8.0	
LLGF Feed Rate (HRA) LLGF Atomization Pressure (HRA) Shale Feed Rate (HRA) Back End Temperature (HRA) Heat Exchanger Exit Temp. (HRA) Flue Gas Flow rate (HRA) CO Conc. @ 7% O ₂ (HRA) O ₂ Concentration (HRA) APCS Parameters Baghouse Inlet Temperature (HRA) Venturi Pressure Drop (HRA) Scrubber Recirculation Rate (HRA) Scrubber Blow down Rate (HRA) Scrubber Liquid pH (HRA) Scrubber Tank Liquid Level (HRA)	gpm psi tph °F °F wet scfm ppm % °F in. w.c. gpm gpm pH % Ht.	10.5 34.0 24.8 866 450 32,193 28.6 14.5 400 5.1 172.8 13.1 8.0 55.9	10.3 33.7 24.8 865 448 31,481 28.0 14.4 399 5.0 172.0 12.9 8.0 55.2	10.6 35.1 24.8 867 451 36,269 30.0 14.7 401 5.5 173.0 13.2 8.0 56.6	10.3 47.7 23.8 866 451 33,298 30.0 14.8 400 5.5 173.4	MIN 10.2 45.2 23.6 865 449 32,755 28.7 14.7 399 5.4 172.7 12.8 8.0 55.8	MAX 10.4 50.7 23.8 868 451 34,995 31.3 15.0 401 5.7 173.7 13.8	
LLGF Feed Rate (HRA) LLGF Atomization Pressure (HRA) Shale Feed Rate (HRA) Back End Temperature (HRA) Heat Exchanger Exit Temp. (HRA) Flue Gas Flow rate (HRA) CO Conc. @ 7% O ₂ (HRA) O ₂ Concentration (HRA) APCS Parameters Baghouse Inlet Temperature (HRA) Venturi Pressure Drop (HRA) Scrubber Recirculation Rate (HRA) Scrubber Blow down Rate (HRA) Scrubber Liquid pH (HRA) Scrubber Tank Liquid Level (HRA) Lime Feed Rate (HRA)	gpm psi tph °F °F wet scfm ppm % °F in. w.c. gpm gpm pH % Ht. lb/hr	10.5 34.0 24.8 866 450 32,193 28.6 14.5 400 5.1 172.8 13.1 8.0 55.9 250.0	10.3 33.7 24.8 865 448 31,481 28.0 14.4 399 5.0 172.0 12.9 8.0 55.2 250.0	10.6 35.1 24.8 867 451 36,269 30.0 14.7 401 5.5 173.0 13.2 8.0 56.6 250.0	10.3 47.7 23.8 866 451 33,298 30.0 14.8 400 5.5 173.4 13.4 8.0	MIN 10.2 45.2 23.6 865 449 32,755 28.7 14.7 399 5.4 172.7 12.8 8.0 55.8 250.0	10.4 50.7 23.8 868 451 34,995 31.3 15.0 401 5.7 173.7 13.8 8.0	
LLGF Feed Rate (HRA) LLGF Atomization Pressure (HRA) Shale Feed Rate (HRA) Back End Temperature (HRA) Heat Exchanger Exit Temp. (HRA) Flue Gas Flow rate (HRA) CO Conc. @ 7% O ₂ (HRA) O ₂ Concentration (HRA) APCS Parameters Baghouse Inlet Temperature (HRA) Venturi Pressure Drop (HRA) Scrubber Recirculation Rate (HRA) Scrubber Blow down Rate (HRA) Scrubber Liquid pH (HRA) Scrubber Tank Liquid Level (HRA)	gpm psi tph °F °F wet scfm ppm % °F in. w.c. gpm gpm pH % Ht.	10.5 34.0 24.8 866 450 32,193 28.6 14.5 400 5.1 172.8 13.1 8.0 55.9	10.3 33.7 24.8 865 448 31,481 28.0 14.4 399 5.0 172.0 12.9 8.0 55.2	10.6 35.1 24.8 867 451 36,269 30.0 14.7 401 5.5 173.0 13.2 8.0 56.6	10.3 47.7 23.8 866 451 33,298 30.0 14.8 400 5.5 173.4 13.4 8.0 56.3	MIN 10.2 45.2 23.6 865 449 32,755 28.7 14.7 399 5.4 172.7 12.8 8.0 55.8	MAX 10.4 50.7 23.8 868 451 34,995 31.3 15.0 401 5.7 173.7 13.8 8.0 56.8	

⁽a) HRA = Hourly Rolling Average

Table 4-3 Process Operating Data Summary – Condition 1RT

	CART DA CART DO								
	Doto		11-Jan-11			C1RT-R2 11-Jan-11			
	Date Start		08:49		12:35				
Vila 4 Operating Person store (a)			11:50			15:37			
Kiln 1 Operating Parameters (a)	Stop Units	AVG	MIN	MAX	AVG	MIN	MAX		
Process & CEM Parameters	Units	AVG	IVIIIV	IVIAA	AVG	IVIIIN	WAA		
	an.m	10.0	10.0	10.2	40.0	10.0	10.2		
LLGF Feed Rate (HRA)	gpm	10.3	10.2	10.3	10.2	10.2	10.3		
LLGF Atomization Pressure (HRA)	psi	37.1	36.3	40.2	40.1	37.7	41.6		
Shale Feed Rate (HRA)	tph °F	23.9	23.7	24.6	23.7	23.6	23.8		
Back End Temperature (HRA)	°F	895	895	896	895	894	896		
Heat Exchanger Exit Temp. (HRA)		431	425	433	438	435	440		
Flue Gas Flow rate (HRA)	w et scfm	33,884	33,644	34,106	35,038	34,253	35,912		
CO Conc. @ 7% O ₂ (HRA)	ppm	33.3	32.0	34.0	33.5	33.0	35.0		
O ₂ Concentration (HRA)	%	15.0	15.0	15.0	15.0	15.0	15.0		
APCS Parameters	٥٣	005	000	000	004	000	000		
Baghouse Inlet Temperature (HRA)	°F	385	383	386	391	386	396		
Venturi Pressure Drop (HRA)	in. w.c.	6.4	6.4	6.5	6.1	5.9	6.3		
Scrubber Recirculation Rate (HRA)	gpm	174.0	174.0	174.0	173.6	173.0	174.0		
Scrubber Blow down Rate (HRA)	gpm	14.0	13.4	14.9	13.8	13.4	14.2		
Scrubber Liquid pH (HRA)	pH	8.0	8.0	8.0	8.0	8.0	8.0		
Scrubber Tank Liquid Level (HRA)	% Ht.	56.5	56.1	56.8	56.5	56.3	56.8		
Lime Feed Rate (HRA)	lb/hr	270.0	270.0	270.0	270.0	270.0	270.0		
Lime Carrier Fluid Flow Rate (HRA)	scfm	150.2	150.0	150.5	150.8	150.3	151.7		
Ducon Pressure Drop (HRA)	in. w.c.	2.4	2.3	2.4	2.5	2.4	2.6		
	_		C1RT-R3						
	Date		12-Jan-11			MACT CPT 2010/2011			
	Start		09:03		January 11-12, 2011				
Kiln 1 Operating Parameters (a)	Stop	437.0	12:04	34 4 37	Condition 1RT Averages				
	Units	AVG	MIN	MAX	AVG	MIN	MAX		
Process & CEM Parameters		40.0	0.0	40.0	40.0	40.4	40.0		
LLGF Feed Rate (HRA)	gpm	10.2	9.8	10.3	10.2	10.1	10.3		
LLGF Atomization Pressure (HRA)	psi	35.8	35.2	38.2	37.7	36.4	40.0		
Shale Feed Rate (HRA)	tph	22.4	22.1	22.5	23.3	23.1	23.6		
Back End Temperature (HRA)	°F	895	894	903	895	894	898		
Heat Exchanger Exit Temp. (HRA)	°F	432	429	433	434	430	435		
Flue Gas Flow rate (HRA)	w et scfm	34,354	33,497	35,786	34,425	33,798	35,268		
CO Conc. @ 7% O ₂ (HRA)	ppm	36.6	35.0	38.0	34.5	33.3	35.7		
O ₂ Concentration (HRA)	%	15.6	15.0	16.0	15.2	15.0	15.3		
APCS Parameters			25-						
Baghouse Inlet Temperature (HRA)	°F	381	380	382	386	383	388		
Venturi Pressure Drop (HRA)	in. w.c.	6.0	5.8	6.3	6.2	6.0	6.4		
Scrubber Recirculation Rate (HRA)	gpm	170.5	168.0	172.0	172.7	171.7	173.3		
Scrubber Blow down Rate (HRA)	gpm	13.9	13.7	14.7	13.9	13.5	14.6		
Scrubber Liquid pH (HRA)	pН	8.0	8.0	8.0	8.0	8.0	8.0		
Scrubber Tank Liquid Level (HRA)	% Ht.	56.5	56.2	56.8	56.5	56.2	56.8		
Lime Feed Rate (HRA)	lb/hr	270.0	270.0	270.0	270.0	270.0	270.0		
Lime Carrier Fluid Flow Rate (HRA)	scfm	151.4	150.0	151.6	150.8	150.1	151.3		
Ducon Pressure Drop (HRA)	in. w .c.	2.5	2.4	2.6	2.5	2.4	2.5		

(a) HRA = Hourly Rolling Average

INST = Instantaneous

Table 4-4 Process Operating Data Summary – Condition 1A

		C1A-R1				C1A-R2	
	Date	12-Jan-11				13-Jan-11	
	Start		13:33			08:33	
Kiln 1 Operating Parameters (a)	Stop		16:35		11:35		
Tuni i operating i arameters (a)	Units	AVG	MIN	MAX	AVG	MIN	MAX
Process & CEM Parameters							
LLGF Feed Rate (HRA)	gpm	10.4	9.7	10.6	10.4	10.3	10.4
LLGF Atomization Pressure (HRA)	psi	35.0	34.9	35.2	36.2	34.6	36.7
Shale Feed Rate (HRA)	tph	23.2	22.7	23.8	23.4	23.3	23.4
Back End Temperature (HRA)	°F	895	892	896	895	895	896
Heat Exchanger Exit Temp. (HRA)	°F	436	433	437	436	434	437
Flue Gas Flow rate (HRA)	w et scfm	46,051	45,006	46,602	45,151	43,956	47,526
CO Conc. @ 7% O ₂ (HRA)	ppm	45.0	39.0	95.0	45.4	43.0	47.0
O ₃ Concentration (HRA)	%	16.0	14.0	27.0	16.0	16.0	16.0
APCS Parameters							
Baghouse Inlet Temperature (HRA)	°F	381	380	381	384	381	386
Venturi Pressure Drop (HRA)	in. w.c.	8.5	8.4	8.5	8.7	8.3	8.8
Scrubber Recirculation Rate (HRA)	gpm	173.9	169.0	176.0	170.3	170.0	172.0
Scrubber Blow down Rate (HRA)	gpm	14.3	13.8	14.4	14.0	13.9	14.0
Scrubber Liquid pH (HRA)	pН	8.0	8.0	8.0	8.0	8.0	8.0
Scrubber Tank Liquid Level (HRA)	% Ht.	56.8	56.2	57.5	56.7	56.2	57.1
Lime Feed Rate (HRA)	lb/hr	270.0	270.0	270.0	270.0	270.0	270.0
Lime Carrier Fluid Flow Rate (HRA)	scfm	152.6	152.5	152.9	149.0	148.8	149.1
Ducon Pressure Drop (HRA)	in. w.c.	3.6	3.6	3.7	3.7	3.6	3.8
		C1A-R3					
	Date		13-Jan-11		MAC	T CPT 2010	0/2011
	Start		12:00		Janu	ıary 12-13,	2011
Kiln 1 Operating Parameters (a)	Stop		15:30		Condit	ion 1A Av	erages
	Units	AVG	MIN	MAX	AVG	MIN	MAX
Process & CEM Parameters							
LLGF Feed Rate (HRA)	gpm	10.3	10.1	10.5	10.4	10.0	10.5
LLGF Atomization Pressure (HRA)	psi	36.6	35.3	36.9	35.9	34.9	36.3
Shale Feed Rate (HRA)	tph	23.4	23.4	23.5	23.3	23.1	23.6
Back End Temperature (HRA)	°F	894	894	895	895	894	896
Heat Exchanger Exit Temp. (HRA)	°F	435	434	436	436	434	437
Flue Gas Flow rate (HRA)	w et scfm	45,672	43,179	46,518	45,625	44,047	46,882
CO Conc. @ 7% O ₂ (HRA)	ppm	46.2	44.0	48.0	45.5	42.0	63.3
O ₂ Concentration (HRA)	%	16.2	16.0	17.0	16.1	15.3	20.0
APCS Parameters							
Baghouse Inlet Temperature (HRA)	°F	384	384	385	383	382	384
Venturi Pressure Drop (HRA)	in. w.c.	8.6	8.0	8.8	8.6	8.2	8.7
Scrubber Recirculation Rate (HRA)	gpm	169.1	168.0	170.0	171.1	169.0	172.7
Scrubber Blow down Rate (HRA)	gpm	13.9	13.9	13.9	14.1	13.9	14.1
Scrubber Liquid pH (HRA)	pН	8.0	8.0	8.0	8.0	8.0	8.0
Scrubber Tank Liquid Level (HRA)	% Ht.	56.5	55.9	57.0	56.7	56.1	57.2
Lime Feed Rate (HRA)	lb/hr	270.0	270.0	270.0	270.0	270.0	270.0
Lime Carrier Fluid Flow Rate (HRA)	scfm	148.7	148.4	148.9	150.1	149.9	150.3
Ducon Pressure Drop (HRA)	in. w .c.	3.7	3.4	3.8	3.7	3.5	3.8

(a) HRA = Hourly Rolling Average

INST = Instantaneous

4.3 Waste Feed Constituent Additions

In order to demonstrate the required performance criteria for metals control, it was necessary to fortify (augment) the hazardous waste fuel (LLGF) with organometallic constituents. The goal for the CPT was to establish feed rate limits for metals and total chlorides consistent with (or similar to) the current permit levels.

Current feed rate limits for metals were derived through extrapolation of the actual metal quantities fed during the previous CPT and a similar approach has been followed for the 2010 CPT data. The metals feed rate limits established by the 2010 CPT have been determined by using the system removal efficiencies (SREs) demonstrated during the CPT for mercury, chromium (representing the LVM group) and lead (representing the SVM group) to arrive at feed rate limits that meet the appropriate emission standard. Actual metal input loading calculations achieved for the four test conditions (Condition 1, Condition 2, Condition 1RT and Condition 1A) are shown in **Tables 4-5 through 4-8**. These calculations are based on the AES lab results and are used in the setting of feed rate limits and for calculating SREs associated with the three surrogate metals (chromium, lead and mercury).

In a similar fashion, an organic constituent (methylene chloride) was added to the LLGF feed tank(s) prior to each test to boost the concentration of total chlorides in the LLGF feed to result in an acceptable feed rate limit for chlorine. The target chlorine concentration in the LLGF after addition of the methylene chloride to the tank was 2% by weight. During Condition 1A, it was also necessary to add MCB to the LLGF feed stream since this organic compound is not present in the native waste at sufficient concentration to enable detection following high levels of destruction in the kiln. Triad Chemicals, LLC of Greensboro, NC was retained to supply the MCB material and to spike the material into the kiln. The target MCB injection rate was 60 lb/hr, although this was increased to 75 lb/hr during the second two test runs in order to boost the overall chlorine input loading. It is noted that the injection of MCB during Condition 1A also served to increase the total chlorine loading since MCB is 31.5% by weight chlorine. The full spiking report provided by Triad Chemicals can be found in Appendix C. Actual total chlorine input loadings achieved for the four test conditions are shown in Tables 4-9 and 4-10.

Table 4-5 Metals Input Loadings for Test Condition 2

Kiln Feed Materials -	Units	C2-R1	Units	C2-R2	Units	C2-R3	
LLGF Feed Rate	gpm	10.2	gpm	10.2	gpm	10.2	
LLGF Density	g/cc	1.0736	g/cc	1.0754	g/cc	1.0767	Avg
Shale Feed Rate	tph	22.1	tph	22.8	tph	22.8	Feed
Target Metals -	Conc.	Feed Rate	Conc.	Feed Rate	Conc.	Feed Rate	<u>Rate</u>
	(mg/kg)	(lb/hr)	(mg/kg)	(lb/hr)	(mg/kg)	(lb/hr)	(lb/hr)
Arsenic in LLGF	36.9	0.202	37.3	0.205	36.6	0.201	
Arsenic in Shale	12.0	0.529	12.0	0.545	12.0	0.545	
Total As Input		0.73		0.75		0.75	0.74
Beryllium in LLGF	0.51	0.003	0.56	0.003	0.34	0.002	
Beryllium in Shale	2.00	0.088	1.90	0.087	1.70	0.078	
Total Be Input		0.091		0.090		0.079	0.087
Chromium in LLGF	508	2.784	490	2.690	453	2.489	
Chromium in Shale	71.9	3.178	64.7	2.950	61.5	2.804	
Total Cr Input		5.96		5.64		5.29	5.63
Total LVM Feed		6.78		6.48		6.12	6.46
Total Pumpable LVM		2.99		2.90		2.69	2.86
Cadmium in LLGF	61.8	0.339	60.8	0.334	61.0	0.335	
Cadmium in Shale	0.31	0.014	0.35	0.016	0.80	0.036	
Total Cd Input		0.35		0.35		0.37	0.36
Lead in LLGF	1,020	5.59	1,010	5.54	1,040	5.72	
Lead in Shale	11.6	0.51	11.6	0.53	15.7	0.72	
Total Pb Input		6.10		6.07		6.43	6.20
Total SVM Feed		6.45		6.42		6.80	6.56
Mercury in LLGF	1.70	0.0093	1.70	0.0093	1.80	0.0099	
Mercury in Shale	0.05	0.0022	0.02	0.0009	0.02	0.0009	
Total Hg Input		0.0115		0.0102		0.0108	0.0109
Copper in LLGF	1,250	6.85	1,220	6.70	1,280	7.03	
Copper in Shale	50.5	2.232	51.1	2.33	76.6	3.49	
Total Cu Input		9.08		9.03		10.5	9.55
Nickel in LLGF	939	5.15	920	5.05	943	5.18	
Nickel in Shale	41.0	1.812	41.9	1.911	32.8	1.496	
Total Ni Input		6.96		6.96		6.68	6.87
Zinc in LLGF	1,330	7.29	1,320	7.25	1,300	7.14	
Zinc in Shale	136	6.01	72.1	3.3	516	23.53	
Total Zn Input		13.3		10.5		30.7	18.2

Table 4-6 Metals Input Loadings for Test Condition 1

Kiln Feed Materials -	Units	C1-R1	Units	C1-R2	Units	C1-R3	
LLGF Feed Rate	gpm	10.1	gpm	10.3	gpm	10.5	
LLGF Density	g/cc	0.9898	g/cc	1.0095	g/cc	0.9922	Avg
Shale Feed Rate	tph	23.2	tph	23.3	tph	24.8	Feed
Target Metals -	Conc.	Feed Rate	Conc.	Feed Rate	Conc.	Feed Rate	<u>Rate</u>
	(mg/kg)	(lb/hr)	(mg/kg)	(lb/hr)	(mg/kg)	(lb/hr)	(lb/hr)
Arsenic in LLGF	28.2	0.141	30.9	0.161	16.3	0.085	
Arsenic in Shale	12.0	0.555	12.0	0.557	12.0	0.593	
Total As Input		0.70		0.72		0.68	0.70
Beryllium in LLGF	0.22	0.001	0.22	0.001	0.22	0.001	
Beryllium in Shale	1.70	0.079	2.00	0.093	2.10	0.104	
Total Be Input		0.080		0.094		0.105	0.093
Chromium in LLGF	375	1.876	400	2.081	361	1.88	
Chromium in Shale	64.2	2.979	76.7	3.574	78.6	3.90	
Total Cr Input		4.85		5.66		5.78	5.43
Total LVM Feed		5.63		6.47		6.56	6.22
Total Pumpable LVM		2.02		2.24		1.97	2.08
Cadmium in LLGF	53.4	0.267	56.3	0.293	32.8	0.171	
Cadmium in Shale	0.31	0.014	0.31	0.014	0.31	0.015	
Total Cd Input		0.28		0.31		0.19	0.26
Lead in LLGF	1,050	5.25	1,080	5.62	741	3.86	
Lead in Shale	11.6	0.54	11.6	0.54	11.6	0.57	
Total Pb Input		5.79		6.16		4.44	5.46
Total SVM Feed		6.07		6.47		4.62	5.72
Mercury in LLGF	1.50	0.0075	1.50	0.0078	1.00	0.0052	
Mercury in Shale	0.02	0.0009	0.05	0.0023	0.06	0.0030	
Total Hg Input		0.0084		0.0101		0.0082	0.0089
Copper in LLGF	1,230	6.15	1,250	6.50	1,270	6.62	
Copper in Shale	48.6	2.255	75.0	3.50	47.3	2.35	
Total Cu Input		8.41		10.0		8.97	9.12
Nickel in LLGF	895	4.48	934	4.86	819	4.27	
Nickel in Shale	39.2	1.819	38.0	1.771	34.8	1.726	
Total Ni Input		6.30		6.63		6.00	6.31
Zinc in LLGF	1,230	6.15	1,270	6.61	1,280	6.67	
Zinc in Shale	68.3	3.17	109	5.1	65.0	3.22	
Total Zn Input		9.32		11.7		9.9	10.3

Table 4-7 Metals Input Loadings for Test Condition 1RT

Kiln Feed Materials -	Units	C1RT-R1	Units	C1RT-R2	Units	C1RT-R3	
LLGF Feed Rate	gpm	10.3	gpm	10.2	gpm	10.2	
LLGF Density	g/cc	0.9865	g/cc	0.9104	g/cc	0.9797	Avg
Shale Feed Rate	tph	23.9	tph	23.7	tph	22.4	Feed
Target Metals -	Conc.	Feed Rate	Conc.	Feed Rate	Conc.	Feed Rate	<u>Rate</u>
	(mg/kg)	(lb/hr)	(mg/kg)	(lb/hr)	(mg/kg)	(lb/hr)	(lb/hr)
Arsenic in LLGF	31.0	0.158	26.5	0.123	22.7	0.114	
Arsenic in Shale	12.0	0.572	12.0	0.567	12.0	0.536	
Total As Input		0.73		0.69		0.65	0.69
Beryllium in LLGF	0.22	0.001	0.22	0.001	0.22	0.001	
Beryllium in Shale	1.80	0.086	1.70	0.081	1.80	0.081	
Total Be Input		0.087		0.082		0.082	0.084
Chromium in LLGF	149	0.758	138	0.641	153	0.77	
Chromium in Shale	63.8	3.050	72.2	3.422	72.9	3.27	
Total Cr Input		3.81		4.06		4.03	3.97
Total LVM Feed		4.62		4.84		4.76	4.74
Total Pumpable LVM		0.92		0.77		0.88	0.85
Cadmium in LLGF	36.8	0.187	36.4	0.169	24.2	0.121	
Cadmium in Shale	0.31	0.015	0.31	0.015	0.31	0.014	
Total Cd Input		0.20		0.18		0.13	0.17
Lead in LLGF	107	0.54	111	0.52	115	0.58	
Lead in Shale	11.6	0.55	11.6	0.55	11.6	0.52	
Total Pb Input		1.10		1.06		1.09	1.09
Total SVM Feed		1.30		1.25		1.23	1.26
Mercury in LLGF	0.24	0.0012	0.22	0.0010	0.25	0.0013	
Mercury in Shale	0.01	0.0005	0.02	0.0009	0.01	0.0004	
Total Hg Input		0.0017		0.0020		0.0017	0.0018
Copper in LLGF	1,480	7.53	1,450	6.74	1,280	6.40	
Copper in Shale	38.4	1.836	43.4	2.06	40.2	1.80	
Total Cu Input		9.36		8.79		8.20	8.79
Nickel in LLGF	1,390	7.07	1,350	6.27	952	4.76	
Nickel in Shale	42.6	2.036	39.4	1.868	40.7	1.823	
Total Ni Input		9.10		8.14		6.58	7.94
Zinc in LLGF	2,070	10.52	2,040	9.48	1,780	8.90	
Zinc in Shale	71.1	3.40	87.1	4.1	141	6.32	
Total Zn Input		13.9		13.6		15.2	14.2

Table 4-8 Metals Input Loadings for Test Condition 1A

Kiln Feed Materials -	Units	C1A-R1	Units	C1A-R2	Units	C1A-R3	
LLGF Feed Rate	gpm	10.4	gpm	10.4	gpm	10.3	
LLGF Density	g/cc	0.9899	g/cc	0.9869	g/cc	0.9902	Avg
Shale Feed Rate	tph	23.2	tph	23.4	tph	23.4	Feed
Target Metals -	Conc.	Feed Rate	Conc.	Feed Rate	Conc.	Feed Rate	<u>Rate</u>
	(mg/kg)	(lb/hr)	(mg/kg)	(lb/hr)	(mg/kg)	(lb/hr)	(lb/hr)
Arsenic in LLGF	41.0	0.211	46.9	0.241	37.4	0.191	
Arsenic in Shale	12.0	0.555	12.0	0.560	12.0	0.560	
Total As Input		0.77		0.80		0.75	0.77
Beryllium in LLGF	0.22	0.001	0.22	0.001	0.22	0.001	
Beryllium in Shale	1.80	0.084	1.70	0.080	1.70	0.080	
Total Be Input		0.085		0.081		0.081	0.082
Chromium in LLGF	210	1.082	166	0.853	183	0.93	
Chromium in Shale	73.1	3.392	74.9	3.505	59.1	2.77	
Total Cr Input		4.47		4.36		3.70	4.18
Total LVM Feed		5.32		5.24		4.53	5.03
Total Pumpable LVM		1.29		1.09		1.13	1.17
Cadmium in LLGF	56.8	0.293	45.9	0.236	45.9	0.234	
Cadmium in Shale	0.31	0.014	0.31	0.015	0.31	0.015	
Total Cd Input		0.31		0.25		0.25	0.27
Lead in LLGF	161	0.83	181	0.93	168	0.86	
Lead in Shale	11.6	0.54	11.6	0.54	11.6	0.54	
Total Pb Input		1.37		1.47		1.40	1.41
Total SVM Feed		1.67		1.72		1.65	1.68
Mercury in LLGF	0.30	0.0015	0.38	0.0020	0.32	0.0016	
Mercury in Shale	0.01	0.0005	0.01	0.0005	0.01	0.0005	
Total Hg Input		0.0020		0.0024		0.0021	0.0022
Copper in LLGF	1,010	5.20	1,210	6.21	1,220	6.23	
Copper in Shale	68.6	3.183	43.9	2.05	42.3	1.98	
Total Cu Input		8.39		8.27		8.21	8.29
Nickel in LLGF	460	2.37	486	2.50	554	2.83	
Nickel in Shale	43.4	2.014	41.0	1.919	43.1	2.017	
Total Ni Input		4.38		4.41		4.84	4.55
Zinc in LLGF	1,610	8.29	1,630	8.37	1,660	8.47	
Zinc in Shale	134	6.22	100	4.7	64.4	3.01	
Total Zn Input		14.5		13.1		11.5	13.0

Table 4-9 Total Chlorine Input Loadings for Conditions 1 and 2 (October 2010)

	Test Condition 1 - Kiln 1 - October 2010						
Kiln Feed	C1-R1		C1-R2		C,	1-R3	
<u> Materials -</u>	<u>Units</u>		<u>Units</u>		<u>Units</u>		
LLGF Feed Rate	gpm	10.1	gpm	10.3	gpm	10.5	
LLGF Density	g/cc	0.9898	g/cc	1.0095	g/cc	0.9922	
Shale Feed Rate	tph	23.2	tph	23.3	tph	24.8	
Input Loadings		Feed Rate		Feed Rate		Feed Rate	
	% wt.	(lb/hr)	% wt.	(lb/hr)	% wt.	(lb/hr)	
Chlorides (CI)							
- LLGF	1.25%	62.5	1.83%	95.2	1.92%	100.1	
- Shale	0.023%	10.86	0.023%	10.9	0.023%	11.6	AVG
Total Cl Input		73.4		106.1		111.7	97.1
		Test Condition 2 - Kiln 1 - October 2010					
Kiln Feed	C2	2-R1	C2-R2		C	2-R3	
<u>Materials -</u>	<u>Units</u>		<u>Units</u>		<u>Units</u>		
LLGF Feed Rate	gpm	10.2	gpm	10.2	gpm	10.2	
LLGF Density	g/cc	1.0736	g/cc	1.0754	g/cc	1.0767	
Shale Feed Rate	tph	22.1	tph	22.8	tph	22.8	
Input Loadings		Feed Rate		Feed Rate		Feed Rate	
	% wt.	(lb/hr)	% wt.	(lb/hr)	% wt.	(lb/hr)	
Chlorides (CI)							
- LLGF	1.87%	102.5	2.09%	114.7	1.98%	108.8	
- Shale	0.023%	10.3	0.023%	10.67	0.023%	10.7	AVG
Total Cl Input		112.8		125.4		119.5	119.2

Table 4-10 Total Chlorine Input Loadings for Conditions 1RT and 1A (January 2011)

		Test Condition 1RT - Kiln 1 - January 2011						
Kiln Feed	C1R	T-R1	C1RT-R2		C1F	RT-R3		
Materials -	Units		<u>Units</u>		<u>Units</u>			
LLGF Feed Rate	gpm	10.3	gpm	10.2	gpm	10.2		
LLGF Density	g/cc	0.9865	g/cc	0.9104	g/cc	0.9797		
Shale Feed Rate	tph	23.9	tph	23.7	tph	22.4		
Input Loadings		Feed Rate		Feed Rate		Feed Rate		
	% wt.	(lb/hr)	% wt.	(lb/hr)	% wt.	(lb/hr)		
Chlorides (CI)								
- LLGF	1.60%	81.4	1.67%	77.6	1.77%	88.5		
- Shale	0.023%	11.19	0.023%	11.1	0.023%	10.5	AVG	
Total Cl Input		92.5		88.7		99.0	93.4	
		Test Condition 1A - Kiln 1 - January 2011						
Kiln Feed	C1/	A-R1	C1.	A-R2	C1	A-R3		
Materials -	<u>Units</u>		<u>Units</u>		<u>Units</u>			
LLGF Feed Rate	gpm	10.4	gpm	10.4	gpm	10.3		
LLGF Density	g/cc	0.9899	g/cc	0.9869	g/cc	0.9902		
MCB Spike	lb/hr	60.0	lb/hr	75.0	lb/hr	75.0		
Shale Feed Rate	tph	23.2	tph	23.4	tph	23.4		
Input Loadings		Feed Rate		Feed Rate		Feed Rate		
	% wt.	(lb/hr)	% wt.	(lb/hr)	% wt.	(lb/hr)		
Chlorides (CI)								
- LLGF	1.75%	90.2	1.61%	82.7	1.68%	85.7		
- MCB Spike	31.5%	18.9	31.5%	23.6	31.5%	23.6		
- Shale	0.023%	10.9	0.023%	11.0	0.023%	11.0	AVG	
Total Cl Input		119.9		117.3		120.3	119.2	

4.4 Metals Feed Limit Extrapolation Methodology

Norlite fortified the LLGF with metal constituents for the purposes of establishing desired metal feed rates and demonstrating satisfactory metals removal from the system. Norlite added solutions and/or metal acetate powders to the LLGF feed tanks to achieve the desired feed concentrations. Additionally, since copper, nickel and zinc are also believed to contribute to the formation of PCDDs/PCDFs in the air pollution control system, Norlite attempted to obtain fuel that already contained metals at or near the maximum feed rates expected in the renewed permit.

Norlite used beryllium acetate, cadmium acetate, chromic acetate, lead acetate and mercuric acetate to fortify the LLGF used in the test. These organometallic compounds were chosen due to their

solubility in alcohol which is a major component of the LLGF. Arsenic acid was used to fortify the LLGF with arsenic because it is also soluble in alcohol.

The goal for the CPT was to establish feed rate limits for metals consistent with the current permit levels. The ultimate objective was to use the SREs demonstrated during the CPT for mercury, chromium (representing the LVM group) and lead (representing the SVM group) to arrive at extrapolated feed rate limits that meet the appropriate emission standard.

Justification for the selection of surrogate metals comes from the MACT rule itself and has been supported in EPA Regions 4 and 5. In the MACT preamble (pg 52946), EPA provides discussion on the issue of metal surrogates and states in the 3rd column, 2nd paragraph that "For example, you may use chromium as a surrogate during the performance test for all low volatile metals. Similarly, you may use lead as a surrogate for cadmium, the other semivolatile metal. This is because the metals within a volatility group have generally the same volatility." (EPA also goes on to say that you could also use one SVM as a surrogate for any LVM because SVM will be more difficult to control.) Both EPA Regions 4 and 5 have agreed with this approach on the basis that chromium is the most toxic of the LVM category and lead is the most toxic of the SVM group.

As stated above, the metals added to the LLGF feed tank were in the form of metal acetates. Norlite has used the CPT results to extrapolate to higher feed rate limits than actually fed during the test using the CPT-established SREs. This is appropriate since it is generally agreed that SREs at higher feed rates would be at least as good as those observed at the lower level. Any extrapolation performed has taken into consideration the MACT standards to ensure full compliance. A summary of the metal extrapolation calculations is provided in **Table 4-11**.

Table 4-11 Metal Extrapolation Calculations

Parameter	Units	Volatile Metals VM	Low Volatile Metals LVM	Semivolatile Metals SVM
Surrogate Metal for the CPT		Hg	Cr	Pb
Test Condition Used		C2	C2	C2
Average CPT Feed Rate	lb/hr	0.0108	5.63	6.20
Average CPT Emission Rate	μg/m³	33.6	36.6	54.5
-	lb/hr	1.91E-03	2.05E-03	3.03E-03
Test Average Surrogate SRE	%	82.37%	99.965%	99.955%
MACT standard for LWAKs	μg/m³	120	110	250
MACT standard equivalent	lb/hr	0.0164	0.0150	0.0342
90% of the MACT standard	μg/m³	108	99	225
Stack Gas Flowrate	dscfm	36,504	36,504	36,504
Stack Oxygen Concentration	%	14.99	14.99	14.99
Extrapolated Feed Rate Limit				
at 90% of the MACT Standard	lb/hr	0.036	16.603	29.349
Established Feed Rate Limit	lb/hr	0.036	16.6	29.3
Minimum Required SRE to				
meet the MACT Standard	%	34.781%	99.885%	99.763%

Note: The MACT standard and the average CPT emission rate (µg/m³) are corrected to 7% oxygen.

4.5 Proposed Permit Limits and Operating Parameter Limits

On the basis of a successful CPT, Norlite has determined operating limits for the LWAK systems as delineated in **Tables 4-12 and 4-13**. Table 4-12 provides a listing of those OPLs associated with the kiln and associated combustion system. Table 4-13 summarizes the OPLs established for the air pollution control system. All of these OPLs have been programmed into the DAS to ensure continuous ongoing compliance with the MACT standards.

Table 4-12 Operating Parameter Limits Established for the Combustion System

Process Parameter	Units	MACT OPL
Maximum total (and pumpable) hazardous waste feed rate	gpm	10.5
Minimum LLGF atomization pressure	psig	35.9
Minimum kiln back-end temperature	°F	895
Maximum kiln hood pressure	in. w.c.	(a)
Maximum heat exchanger exit temperature	°F	436
Maximum flue gas flow rate	wet scfm	45,625
Maximum kiln production (shale feed) rate	tph	22.8
Maximum total chlorine feed rate	lb/hr	119.2
Maximum total mercury feed rate	lb/hr	0.036
Maximum total LVM (As, Be & Cr) feed rate	lb/hr	16.6
Maximum total pumpable LVM (As, Be & Cr) feed rate	lb/hr	5.55
Maximum total SVM (Cd & Pb) feed rate	lb/hr	29.3
Maximum CO concentration corrected to 7% oxygen	ppm	100

(a) See text for discussion

Table 4-13 Operating Parameter Limits Established for the APCS

Process Parameter	Units	MACT OPL
Maximum baghouse inlet temperature	°F	400
Minimum venturi pressure drop	in. w.c.	6.1
Minimum scrubber blowdown rate	gpm	14.6
Minimum scrubber tank liquid level	% of tank height	58
Minimum scrubber recirculation rate	gpm	174.7
Minimum scrubber liquid to gas ratio	gal/10 ³ ft ³	4.9
Minimum scrubber liquid pH	pH units	8.1
Minimum dry sorbent feed rate	lb/hr	250
Minimum dry sorbent carrier fluid flow rate	cfm	151.8

The permit limits for each of the control parameters have been established as specified in the HWC MACT regulations given in 40 CFR 63.1209. The following sections provide further details on the regulatory requirements associated with each OPL and the logic pertaining to how the limit has been established to ensure compliance with the applicable standards.

4.5.1 Parameters Demonstrated by Testing During the CPT

4.5.1.1 Maximum Total Hazardous Waste Feed Rate [40 CFR 63.1209(j(3), (k)(4)]

The maximum total hazardous waste feed rate operating limit is established for maintaining compliance with the DRE and PCDD/PCDF emission standards. The total hazardous waste feed rate is the same as total pumpable hazardous waste feed rate and thus there is no need to establish a separate limit for pumpable waste. This limit is established as an HRA limit from the average of the maximum HRAs demonstrated during the CPT. Condition 1A was used to establish this limit.

4.5.1.2 Maximum Kiln Production Rate (Shale Feed Rate) [40 CFR 63.1209(j)(2), (k)(3), (m)(2), (n)(5), (o)(2)]

The maximum kiln production rate (shale feed rate) operating limit is established for maintaining compliance with the DRE, PCDD/PCDF, SVM, LVM, PM, and HCl/Cl₂ emission standards. Since Norlite conducted multiple test conditions demonstrating this parameter, the maximum value for this parameter has been established as the most conservative average value from the three valid test conditions (Condition 2). Maximum shale feed rate is established as an appropriate surrogate for kiln production rate and is monitored on an HRA basis. The maximum shale feed rate is established as the average of the maximum HRAs observed during the CPT.

4.5.1.3 Minimum Kiln Back-End Temperature [40 CFR 63.1209(j)(1), (k)(2)]

The minimum kiln back-end temperature operating limit is established for maintaining compliance with the DRE and PCDD/PCDF emission standards. This temperature is monitored on a continuous basis and the minimum temperature limit is established as an hourly rolling average (HRA) equal to the average of the test run average values. Condition 1A was used to establish this limit.

4.5.1.4 Maximum Heat Exchanger Exit Temperature [40 CFR 63.1209(k)(1)(ii)]

The maximum heat exchanger exit temperature operating limit is established for maintaining compliance with the PCDD/PCDF emission standard. This temperature is monitored on a continuous basis and the maximum temperature limit is established as an hourly rolling average (HRA) equal to the average of the test run average values. Condition 1A was used to establish this limit rather than Condition 2 as described in the CPT Plan. NYSDEC and EPA have determined that this operating parameter must be set in conjunction with the minimum kiln back-end temperature.

4.5.1.5 Maximum Flue Gas Flowrate [40 CFR 63.1209(j)(2), (k)(3), (m)(2), (n)(5), (o)(2)]

The maximum flue gas flowrate operating limit is established for maintaining compliance with the DRE and PCDD/PCDF emission standards. Maximum process gas flow rate is established as an appropriate surrogate for gas residence time in the combustion chamber and is monitored on an HRA basis. The maximum process gas flowrate is established as the average of the maximum HRAs observed during the CPT. Condition 1A was used to establish this limit.

4.5.1.6 Maximum Baghouse Inlet Temperature [40 CFR 63.1209(n)(1)]

The maximum baghouse inlet temperature operating limit is established for maintaining compliance with the SVM and LVM emission standards. The maximum baghouse inlet temperature is monitored on an HRA basis and is established as the average of the test run averages. Condition 2 was used to establish this limit.

4.5.1.7 Minimum Venturi Pressure Drop [40 CFR 63.1209(m)(1)(i)(A), (n)(3), (o)(3)(i)]

The minimum venturi pressure drop operating limit is established for maintaining compliance with the PM, SVM, LVM and HCl/Cl₂ emission standards. The minimum venturi pressure drop is monitored on an HRA basis and is established as the average of the test run averages. Condition 2 was used to establish this limit.

4.5.1.8 Minimum Scrubber Recirculation Rate [40 CFR 63.1209(m)(1)(C)]

The minimum scrubber recirculation flowrate is established for maintaining compliance with the PM, LVM, SVM and HCl/Cl₂ emission standards. The minimum scrubber recirculation flowrate is monitored on an HRA basis and is established as the average of the test run averages. Condition 2 was used to establish this limit.

4.5.1.9 Minimum Scrubber Liquid to Gas Ratio [40 CFR 63.1209(I)(2), (m)(1)(i)(C), (n)((3), (o)(3)(v)]

The minimum scrubber liquid to gas ratio is established for maintaining compliance with the mercury, PM, LVM, SVM and HCl/Cl₂ emission standards. The minimum scrubber liquid to gas ratio is monitored on an HRA basis and is established as the average of the test run averages. Condition 2 was used to establish this limit.

4.5.1.10 Minimum Scrubber Blowdown Rate [40 CFR 63.1209(m)(1)(i)(B), (n)(3)]

The minimum scrubber blowdown rate is established for maintaining compliance with the PM, SVM and LVM emission standards. The minimum scrubber blowdown rate is monitored on an HRA basis and is established as the average of the test run averages. Condition 2 was used to establish this limit.

4.5.1.11 Minimum Scrubber Liquid pH [40 CFR 63.1209(I)(2), (o)(3)(iv)]

The minimum scrubber liquid pH is established for maintaining compliance with the mercury and HCI/Cl₂ emission standards. The minimum scrubber liquid pH is monitored on an HRA basis and is established as the average of the test run averages observed during the CPT. The value for this parameter is established based on Condition 2.

4.5.1.12 Minimum Scrubber Tank Liquid Level [40 CFR 63.1209(m)(1)(i)(B), (l)(2)]

The minimum scrubber tank liquid level is established for maintaining compliance with the PM, SVM, LVM and mercury emission standards. The minimum scrubber tank liquid level is monitored on an HRA basis and is established as the average of the test run averages observed during the CPT. Condition 2 was used to establish this limit.

4.5.1.13 Minimum Dry Sorbent Feed Rate [40 CFR 63.1209(o)(4)(i)]

The minimum dry sorbent (hydrated lime) feed rate limit is established for maintaining compliance with the HCI/Cl₂ emission standard. The minimum dry sorbent feed rate is monitored on an HRA basis and is established as the average of the test run averages observed during the CPT. Condition 2 was used to establish this limit.

4.5.1.14 Minimum Dry Sorbent Carrier Fluid Flow Rate [40 CFR 63.1209(o)(4)(ii)]

The minimum dry sorbent carrier fluid (air) flow rate limit is established for maintaining compliance with the HCl/Cl₂ emission standard. The minimum dry sorbent carrier fluid flow rate is monitored on an HRA basis and is established as the average of the test run averages observed during the CPT. Condition 2 was used to establish this limit.

4.5.1.15 Maximum Total Chlorine and Chloride Feed Rate [40 CFR 63.1209(n)(4), (o)(1)]

The maximum total chlorine/chloride feed rate operating limit is established to maintain compliance with the SVM, LVM, and HCl/Cl₂ emission standards. The total chlorine feed rate limit is expressed as a 12-hour RA, equal to the average of the test run averages observed during the CPT. Condition 2 was used to establish this limit.

4.5.1.16 Maximum Total LVM Feed Rate [40 CFR 63.1209(n)(2)(ii), (n)(2)(iv), (n)(2)(vii)]

The maximum low volatile metal (LVM) (arsenic, beryllium and chromium) feed rate operating limit is established for maintaining compliance with the LVM emission standard. The total LVM feed rate limit is expressed as a 12-hour RA, and has been based on metals extrapolation up to a maximum value considering historical feed rates for the facility. Condition 2 was used to establish this limit.

4.5.1.17 Maximum Total Pumpable LVM Feed Rate [40 CFR 63.1209(n)(2)(vi)]

The maximum total pumpable LVM feed rate operating limit is established for maintaining compliance with the LVM emission standard. The total pumpable LVM feed rate limit is expressed as a 12-hour RA, and has been based on metals extrapolation up to a maximum value considering historical feed rates for the facility. Condition 2 was used to establish this limit.

4.5.1.18 Maximum Total SVM Feed Rate [40 CFR 63.1209(n)(2)(ii), (n)(2)(iv), (n)(2)(vii)]

The maximum semivolatile metal (SVM) (lead and cadmium) feed rate operating limit is established for maintaining compliance with the SVM emission standard. The total SVM feed rate limit is expressed as a 12-hour RA, and has been based on metals extrapolation up to a maximum value considering historical feed rates for the facility. Condition 2 was used to establish this limit.

4.5.1.19 Maximum Total Mercury Feed Rate [40 CFR 63.1209(I)(iv)(A), (I)(v)]

The maximum mercury feed rate operating limit is established to maintain compliance with the mercury emission standard. The total mercury feed rate limit is expressed as a 12-hour RA, and has been based on metals extrapolation up to a maximum value considering historical feed rates for the facility. Condition 2 was used to establish this limit.

4.5.2 Parameters Established by Regulatory Citation

4.5.2.1 Maximum Stack Gas CO Concentration [40 CFR 63.1221(a)(5)(i)]

The maximum hourly rolling average stack gas CO concentration is specified in the regulations as not to exceed 100 ppmv corrected to 7% oxygen, dry basis.

4.5.3 Parameters Established by Manufacturer's Recommendations and/or Good Operating Practice

4.5.3.1 Operation of Waste Firing System [40 CFR 63.1209(j)(4)]

This regulation stipulates that facilities should specify operating limits to ensure that good operation of the firing system is maintained to ensure compliance with the DRE standard. To satisfy this requirement, Norlite has established a minimum LLGF atomization pressure based on manufacturer's recommendations and Norlite's operating experience. Condition 1A was used to establish this limit.

4.5.3.2 Fugitive Emissions Control / Kiln Pressure [40 CFR 63.1206(c)(5)(i)(B) and 63.1209(p)]

Norlite complies with the requirements of 40 CFR 63.1206(c)(5)(i)(B) for controlling combustion system leaks of HAPs by maintaining the maximum combustion zone pressure lower than ambient pressure using an instantaneous monitor. In addition, Norlite has installed a double-walled fugitive emission containment system on the kilns. The emissions capturing system (interstitial chamber) pressure will be kept at or below -0.08 in. w.c. on an hourly rolling average basis with an AWFCO should the HRA exceed -0.08 in. w.c. The following additional operational conditions apply:

- The front end pressure shall remain at or below -0.05 in. w.c. If the front end instantaneous pressure continuously exceeds -0.05 in.w.c. for more than 3.0 seconds, an AWFCO shall occur immediately.
- If the front end instantaneous pressure continuously exceeds 0.00 in. w.c. for more than 1.0 second, then an AWFCO shall occur immediately.
- If the emissions capturing system (interstitial chamber) instantaneous pressure reaches or exceeds 0.00 in. w.c. continuously for more than 1.0 second, then an AWFCO shall occur immediately.
- If at any time the instantaneous front end pressure and the emissions capturing system pressure reach or exceed 0.00 in. w.c. at the same time, then an AWFCO shall occur immediately.

5.0 Feed Stream Sampling and Analysis

5.1 Feed Stream Sampling

Facility personnel performed all feed stream sampling under the guidance of the AECOM project manager. Mr. Prince Knight coordinated these activities for Norlite and assumed custody of the samples at the conclusion of each test series. The samples collected included LLGF and shale and each sample was assigned a unique sample code for identification. Sufficient quantity was collected to allow for sample splits, backup or archived samples and duplicates, as applicable. NYSDEC staff observing the test provided their own sample bottles for sample splits. The samples were collected using pre-cleaned sample bottles suitable for the type of sample being collected and the intended analysis. AECOM provided all sample containers and assumed custody of the samples at the end of each test day. Prior to initiating CPT testing activities, AECOM held a training session with facility staff responsible for sample collection to review grab sampling techniques, size of sample aliquots, compositing procedures and sample bottles to be used.

Grab samples of LLGF were collected at 15-minute intervals, resulting in a single composite sample at the end of each run. A data sheet was completed by the sampler denoting the time at which each grab sample was taken. The LLGF grab samples were collected from a tap in the feed line after the line had been flushed with the material being collected.

Raw shale feed was sampled three times – at the beginning, middle and end of each test run. The shale was sampled at the conveyor belt using a scoop with an appropriate aliquot being emptied into the final collection bottle. A data sheet was completed by the sampler denoting the time at which each shale sample was taken.

5.2 Feed Stream Analytical Results

The kiln feed materials were analyzed by both the Norlite onsite laboratory and by Adirondack Environmental Services (AES) in Albany, NY. These analyses were performed in accordance with the approved procedures outlined in the facility's FSAP. The "official" analytical results for the program are those provided by AES.

Analytical results for LLGF are summarized in **Tables 5-1 through 5-4**, representing data for each test condition. Similarly, analytical results for shale are provided in **Tables 5-5 through 5-8**. **Appendix D** provides a full summary of the analytical results as determined by AES.

Table 5-1 LLGF Analytical Results - Test Condition 2

Physical Parameters	Units	C2-R1	C2-R2	C2-R3	Avg.
Heat Content	Btu / lb	9,480	9,643	9,704	9,609
Specific Gravity	g / mL	1.0736	1.0754	1.0767	1.0752
Total Chlorine (IC)	mg / kg	17,860	19,220	18,760	18,613
	% wt	1.79	1.92	1.88	1.86
Total Chlorine (Titration)	mg / kg	18,710	20,860	19,840	19,803
	% wt	1.87	2.09	1.98	1.98
Ash Content	% wt	11.5	11.4	11.7	11.5
Sediment	% vol	30.0	25.0	20.0	25.0
Metals	Units	C2-R1	C2-R2	C2-R3	Avg.
Arsenic	mg / kg	36.9	37.3	36.6	36.9
Beryllium	mg / kg	0.51	0.56	0.34	0.47
Cadmium	mg / kg	61.8	60.8	61.0	61.2
Chromium	mg / kg	508	490	453	484
Copper	mg / kg	1,250	1,220	1,280	1,250
Lead	mg / kg	1,020	1,010	1,040	1,023
Nickel	mg / kg	939	920	943	934
Zinc	mg / kg	1,330	1,320	1,300	1,317
Mercury (M 7471A)	mg / kg	1.70	1.70	1.80	1.73
Mercury (M 3050 / 7470)	mg / kg	0.41	0.38	0.35	0.38

Note 1: Total Chlorine by titration values are being used for LLGF input calculations.

Table 5-2 LLGF Analytical Results - Test Condition 1

Physical Parameters	Units	C1-R1	C1-R2	C1-R3	Avg.
Heat Content	Btu / lb	14,605	10,125	9,755	11,495
Specific Gravity	g / mL	0.9898	1.0095	0.9922	0.9972
Total Chlorine (IC)	mg / kg	10,610	18,100	18,370	15,693
	% wt	1.06	1.81	1.84	1.57
Total Chlorine (Titration)	mg / kg	12,450	18,290	19,200	16,647
	% wt	1.25	1.83	1.92	1.66
Ash Content	% wt	12.1	11.8	12.4	12.1
Sediment	% vol	25.0	26.0	20.0	23.7
Metals	Units	C1-R1	C1-R2	C1-R3	Avg.
Arsenic	mg / kg	28.2	30.9	16.3	25.1
Beryllium	mg / kg	< 0.22	< 0.22	< 0.22	< 0.22
Cadmium	mg / kg	53.4	56.3	32.8	47.5
Chromium	mg / kg	375	400	361	379
Copper	mg / kg	1,230	1,250	1,270	1,250
Lead	mg / kg	1,050	1,080	741	957
Nickel	mg / kg	895	934	819	883
Zinc	mg / kg	1,230	1,270	1,280	1,260
Mercury (M 7471A)	mg / kg	1.50	1.50	1.00	1.33
Mercury (M 3050 / 7470)	mg / kg	0.31	0.31	0.27	0.30

Note 1: Total Chlorine by titration values are being used for LLGF input calculations.

Table 5-3 LLGF Analytical Results - Test Condition 1RT

Physical Parameters	Units	C1RT-R1	C1RT-R2	C1RT-R3	Avg.
Heat Content	Btu / lb	9,369	9,439	9,264	9,357
Specific Gravity	g / mL	0.9865	0.9104	0.9797	0.9589
Total Chlorine (IC)	mg / kg	16,240	16,700	17,130	16,690
	% wt	1.62	1.67	1.71	1.67
Total Chlorine (Titration)	mg / kg	16,030	16,730	17,680	16,813
	% wt	1.60	1.67	1.77	1.68
Ash Content	% wt	5.57	5.64	5.63	5.61
Sediment	% vol	14.0	16.0	18.0	16.0
Metals	Units	C1RT-R1	C1RT-R2	C1RT-R3	Avg.
Arsenic	mg / kg	31.0	26.5	22.7	26.7
Beryllium	mg / kg	< 0.22	< 0.22	< 0.22	< 0.22
Cadmium	mg / kg	36.8	36.4	24.2	32.5
Chromium	mg / kg	149	138	153	147
Copper	mg / kg	1,480	1,450	1,280	1,403
Lead	mg / kg	107	111	115	111
Nickel	mg / kg	1,390	1,350	952	1,231
Zinc	mg / kg	2,070	2,040	1,780	1,963
Mercury (M 7471A)	mg / kg	0.24	0.22	0.25	0.24
Mercury (M 3050 / 7470)	mg / kg	0.14	0.13	0.15	0.14

Note 1: Total Chlorine by titration values are being used for LLGF input calculations.

Table 5-4 LLGF Analytical Results - Test Condition 1A

Physical Parameters	Units	C1A-R1	C1A-R2	C1A-R3	Avg.
Heat Content	Btu / Ib	9,605	9,268	9,228	9,367
Specific Gravity	g / mL	0.9899	0.9869	0.9902	0.9890
Total Chlorine (IC)	mg / kg	17,490	16,140	16,010	16,547
	% wt	1.75	1.61	1.60	1.65
Total Chlorine (Titration)	mg / kg	17,500	16,070	16,830	16,800
	% wt	1.75	1.61	1.68	1.68
Ash Content	% wt	7.38	7.71	7.71	7.60
Sediment	% vol	30.0	46.0	44.0	40.0
Metals	Units	C1A-R1	C1A-R2	C1A-R3	Avg.
Arsenic	mg / kg	41.0	46.9	37.4	41.8
Beryllium	mg / kg	< 0.22	< 0.22	< 0.22	< 0.22
Cadmium	mg / kg	56.8	45.9	45.9	49.5
Chromium	mg / kg	210	166	183	186
Copper	mg / kg	1,010	1,210	1,220	1,147
Lead	mg / kg	161	181	168	170
Nickel	mg / kg	460	486	554	500
Zinc	mg / kg	1,610	1,630	1,660	1,633
Mercury (M 7471A)	mg / kg	0.30	0.38	0.32	0.33
Mercury (M 3050 / 7470)	mg / kg	0.15	0.17	0.18	0.17

Note 1: Total Chlorine by titration values are being used for LLGF input calculations.

Table 5-5 Shale Analytical Results – Test Condition 2

Physical Parameters	Units	C2-R1	C2-R2	C2-R3	Avg.
Total Chlorides	mg / kg	< 234	< 234	< 234	< 234
	% wt.	< 0.023	< 0.023	< 0.023	< 0.023
Metals	Units	C2-R1	C2-R2	C2-R3	Avg.
Arsenic	mg / kg	< 12.0	< 12.0	< 12.0	< 12.0
Beryllium	mg / kg	2.00	1.90	1.70	1.87
Cadmium	mg / kg	< 0.31	0.35	0.80	< 0.49
Chromium	mg / kg	71.9	64.7	61.5	66.0
Copper	mg / kg	50.5	51.1	76.6	59.4
Mercury	mg / kg	0.05	0.02	0.02	0.03
Lead	mg / kg	< 11.6	< 11.6	15.7	< 13.0
Nickel	mg / kg	41.0	41.9	32.8	38.6
Zinc	mg / kg	136	72.1	516	241

Table 5-6 Shale Analytical Results - Test Condition 1

Physical Parameters	Units	C1-R1	C1-R2	C1-R3	Avg.
Total Chlorine (IC)	mg / kg	< 234	< 234	< 234	< 234
	% wt.	< 0.023	< 0.023	< 0.023	< 0.023
Metals	Units	C1-R1	C1-R2	C1-R3	Avg.
Arsenic	mg / kg	< 12.0	< 12.0	< 12.0	< 12.0
Beryllium	mg / kg	1.70	2.00	2.10	1.93
Cadmium	mg / kg	< 0.31	< 0.31	< 0.31	< 0.31
Chromium	mg / kg	64.2	76.7	78.6	73.2
Copper	mg / kg	48.6	75.0	47.3	57.0
Mercury	mg / kg	0.02	0.05	0.06	0.04
Lead	mg / kg	< 11.6	< 11.6	< 11.6	< 11.6
Nickel	mg / kg	39.2	38.0	34.8	37.3
Zinc	mg / kg	68.3	109.0	65.0	80.8

Table 5-7 Shale Analytical Results – Test Condition 1RT

Physical Parameters	Units	C1RT-R1	C1RT-R2	C1RT-R3	Avg.
Total Chlorides	μg / g	< 234	< 234	< 234	< 234
	% wt.	< 0.023	< 0.023	< 0.023	< 0.023
Metals	Units	C1RT-R1	C1RT-R2	C1RT-R3	Avg.
Arsenic	mg / kg	< 12.0	< 12.0	< 12.0	< 12.0
Beryllium	mg / kg	1.80	1.70	1.80	1.77
Cadmium	mg / kg	< 0.31	< 0.31	< 0.31	< 0.31
Chromium	mg / kg	63.8	72.2	72.9	69.6
Copper	mg / kg	38.4	43.4	40.2	40.7
Mercury	mg / kg	< 0.01	< 0.02	< 0.01	< 0.01
Lead	mg / kg	< 11.6	< 11.6	< 11.6	< 11.6
Nickel	mg / kg	42.6	39.4	40.7	40.9
Zinc	mg / kg	71.1	87.1	141	99.7

Table 5-8 Shale Analytical Results – Test Condition 1A

Physical Parameters	Units	C1A-R1	C1A-R2	C1A-R3	Avg.
Total Chlorides	μg/g	< 234	< 234	< 234	< 234
	% wt.	< 0.023	< 0.023	< 0.023	< 0.023
Metals	Units	C1A-R1	C1A-R2	C1A-R3	Avg.
Arsenic	mg/kg	< 12.0	< 12.0	< 12.0	< 12.0
Beryllium	mg/kg	1.80	1.70	1.70	1.73
Cadmium	mg/kg	< 0.31	< 0.31	< 0.31	< 0.31
Chromium	mg/kg	73.1	74.9	59.1	69.0
Copper	mg/kg	68.6	43.9	42.3	51.6
Mercury	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Lead	mg/kg	< 11.6	< 11.6	< 11.6	< 11.6
Nickel	mg/kg	43.4	41.0	43.1	42.5
Zinc	mg/kg	134	100	64.4	99.5

6.0 Performance Test Results

As stated earlier, the CPT was conducted over two separate time periods in October 2010 and January 2011. Sample train run times associated with these events are provided in **Table 6-1 and Table 6-2**.

Table 6-1 Sample Train Run Times for Test Conditions 1 and 2

Run #	Date	M29 - Metals		Run #	Date	M26A - PM / HCI / CI ₂	
		Start	Stop			Start	Stop
C2-R1	19-Oct-10	10:58	13:04	C2-R1	19-Oct-10	10:58	13:04
C2-R2	19-Oct-10	14:40	16:45	C2-R2	19-Oct-10	14:40	16:45
C2-R3	19-Oct-10	17:58	20:02	C2-R3	19-Oct-10	17:58	20:02
Run #	Date	M23 - PCD	Ds / PCDFs	Run #	Date	M23 - PCDDs / PCDFs	
		Start	Stop			Start	Stop
C2-R1	19-Oct-10	10:58	14:00	C1-R1	20-Oct-10	09:30	12:32
C2-R2	19-Oct-10	14:40	17:42	C1-R2	20-Oct-10	13:00	16:02
C2-R3	19-Oct-10	17:58	21:00	C1-R3	21-Oct-10	09:04	12:07

Table 6-2 Sample Train Run Times for Test Conditions 1RT and 1A

Run #	Date	PCDDs	/ PCDFs	Run #	Date	PCDDs	/ PCDFs
		Start	Stop			Start	Stop
C1RT-R1	11-Jan-11	08:49	11:50	C1A-R1	12-Jan-11	13:33	16:35
C1RT-R2	11-Jan-11	12:35	15:37	C1A-R2	13-Jan-11	08:33	11:35
C1RT-R3	12-Jan-11	09:03	12:04	C1A-R3	13-Jan-11	12:00	15:30
Run #	Date	Method 0	031 (VOST)	Run #	Date	Method 0031 (VOST)	
		Start	Stop			Start	Stop
C1A-R1A	12-Jan-11	14:03	14:23	C1A-R3A	13-Jan-11	12:30	12:50
C1A-R1B	12-Jan-11	14:33	14:53	C1A-R3B	13-Jan-11	12:59	13:19
C1A-R1C	12-Jan-11	15:04	15:24	C1A-R3C	13-Jan-11	13:32	13:52
C1A-R1D	12-Jan-11	15:37	15:57	C1A-R3D	13-Jan-11	14:26	14:46
C1A-R2A	13-Jan-11	09:00	09:20				
C1A-R2B	13-Jan-11	09:28	09:48				
C1A-R2C	13-Jan-11	10:14	10:34				
C1A-R2D	13-Jan-11	10:41	11:01				

6.1 Continuous Emission Monitoring

Norlite provided continuous measurement of carbon monoxide (CO) during all test conditions in accordance with permit requirements. In addition, AECOM provided data for carbon dioxide (CO₂) and oxygen (O₂) during all test runs to enable computation of the stack gas molecular weight. Also, during the DRE measurements conducted during Test Condition 1A, AECOM provided continuous data for total hydrocarbons (THC) as required by the MACT regulations. Results for all Norlite CEM data and all AECOM CEM data are presented below in **Table 6-3**.

Table 6-3 AECOM CEM Data for Carbon Dioxide, Oxygen and Total Hydrocarbons

		Norlite C	EM Data		AECOM Data	a
			СО			THC
		O ₂ Conc.	at 7% O ₂	O ₂ Conc.	CO ₂ Conc.	at 7% O ₂
Run No.	Date	(% v)	(ppm)	(% v)	(% v)	(ppm)
C2-R1	19-Oct-10	15.4	44.1	13.4	3.90	(a)
C2-R2	19-Oct-10	15.3	40.3	15.8	4.00	(a)
C2-R3	19-Oct-10	15.3	40.8	15.8	4.00	(a)
	AVG	15.3	41.7	15.0	3.97	
C1-R1	20-Oct-10	14.9	28.5	15.6	4.20	(a)
C1-R2	20-Oct-10	15.0	32.9	15.9	4.00	(a)
C1-R3	21-Oct-10	14.5	28.6	15.4	4.20	(a)
	AVG	14.8	30.0	15.6	4.13	
C1RT-R1	11-Jan-11	15.0	33.3	15.0	4.76	(a)
C1RT-R2	11-Jan-11	15.0	33.5	15.0	4.69	(a)
C1RT-R3	12-Jan-11	15.6	36.6	14.6	4.38	(a)
	AVG	15.2	34.5	14.9	4.61	
C1A-R1	12-Jan-11	16.0	45.0	15.6	3.87	4.41
C1A-R2	13-Jan-11	16.0	45.4	16.1	3.93	5.20
C1A-R3	13-Jan-11	16.2	46.2	16.1	3.98	4.93
	AVG	16.1	45.5	15.9	3.93	4.85

⁽a) Not measured during this condition.

6.2 PCDDs / PCDFs

EPA Method 0023A was used to sample for all target PCDD / PCDF congeners during all test conditions. The sampling runs involved isokinetic sampling at 12 points (6 points per traverse) with an overall net run length of 180 minutes. Sampling was conducted for 15 minutes per point with meter box readings taken every 7.5 minutes. The sampling train consisted of 5 glass impingers connected in series with leak-free ground glass and Teflon o-ring connections. The first impinger was left empty and the second and third impingers were filled with 100-mL of HPLC water. The fourth impinger was also left empty and the fifth impinger was loaded with ~ 200-400 g of silica gel. The sampling train used an untared glass fiber filter, an XAD resin trap and condensing module and was operated as specified in the method. The recovered sample train fractions (front-half rinse, particulate filter, XAD resin module and back-half rinse) were submitted to **Vista Analytical (El Dorado Hills, California)** for all laboratory analyses.

Test results for the program are summarized in Tables **6-4 through 6-7**. Emission results for Conditions 2, 1RT and 1A demonstrated full compliance with the MACT standard (0.20 ng/dscm TEQs corrected to $7\% O_2$). It should be noted that when demonstrating compliance with an emission

standard, any non-detects can be reported as zero (as allowed under 63.1208(b)(1)(iii)). It should also be noted that these tables represent the final calculations combining the front-half and back-half analytical fractions. Data associated with the <u>individual</u> sample train fractions (as well as additional risk-based emission calculations that are of interest to NYSDEC) can be found in <u>front</u> of the Vista analytical data report in **Appendix F**.

Table 6-4 PCDD/PCDF Emission Results for Condition 2

	Run No.		C2-R1		C2-R2		C2-R3	
	Date		19-Oct-10		19-Oct-10		19-Oct-10	
	Start Time		10:58		14:40		17:58	
	Stop Time		14:00		17:42	21:00		
	Units							
Sample Volume	dscf	118.515			122.108		118.610	
Sample Volume	m³		3.36		3.46		3.36	
Moisture Content	% v/v		12.7		13.0		12.8	
O ₂ Concentration	% v/v (dry)		13.37		15.80		15.80	
CO ₂ Concentration	% v/v (dry)		3.90		4.00		4.00	
Isokinetics	%		93		94		93	
Stack Flowrate	dscfm		34,972		35,776		35,136	
PCDD / PCDF		pg	ng/m³	pg	ng/m³	pg	ng/m³	
Parameters	TEF (a)	, 0	TEQ		TEQ	, ,	TEQ	
2,3,7,8-TCDD	1.00	20.80	6.2E-03	16.80	4.9E-03	14.9	4.4E-03	
1,2,3,7,8-PeCDD	0.50	14.1	2.1E-03	10.80	1.6E-03	8.72	1.3E-03	
1,2,3,4,7,8-HxCDD	0.10	2.96	8.8E-05	(8.51)	0.0E+00	2.35	7.0E-05	
1,2,3,6,7,8-HxCDD	0.10	12.68	3.8E-04	5.00	1.4E-04	4.23	1.3E-04	
1,2,3,7,8,9-HxCDD	0.10	(12.34)	0.0E+00	(8.83)	0.0E+00	(9.10)	0.0E+00	
1,2,3,4,6,7,8-HpCDD	0.01	67.40	2.0E-04	28.7	8.3E-05	21.93	6.5E-05	
OCDD	0.001	124.7	3.7E-05	59.4	1.7E-05	26.5	7.9E-06	
2,3,7,8-TCDF	0.10	396	1.2E-02	298	8.6E-03	255	7.6E-03	
1,2,3,7,8-PeCDF	0.05	163	2.4E-03	127.6	1.8E-03	103	1.5E-03	
2,3,4,7,8-PeCDF	0.50	289	4.3E-02	230.4	3.3E-02	190	2.8E-02	
1,2,3,4,7,8-HxCDF	0.10	64.8	1.9E-03	58.9	1.7E-03	49.1	1.5E-03	
1,2,3,6,7,8-HxCDF	0.10	66.2	2.0E-03	56.1	1.6E-03	48.7	1.4E-03	
2,3,4,6,7,8-HxCDF	0.10	51.5	1.5E-03	51.4	1.5E-03	44.8	1.3E-03	
1,2,3,7,8,9-HxCDF	0.10	14.20	4.2E-04	17.98	5.2E-04	(5.16)	0.0E+00	
1,2,3,4,6,7,8-HpCDF	0.01	54.3	1.6E-04	58.7	1.7E-04	54.9	1.6E-04	
1,2,3,4,7,8,9-HpCDF	0.01	7.35	2.2E-05	7.04	2.0E-05	3.81	1.1E-05	
OCDF	0.001	13.70	4.1E-06	11.70	3.4E-06	7.96	2.4E-06	
TOTAL TEQs (ng/m³)		=	0.0723		0.0560		0.0479	
TOTAL TEQs (ng/m³ (@ 7 % O ₂)	=	0.1327		0.1507		0.1289	
TOTAL TEQs (g/s)		=	1.2E-09		9.5E-10		7.9E-10	

AVG: 0.1374

(a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

Table 6-5 PCDD/PCDF Emission Results for Condition 1

	Run No.		C1-R1		C1-R2		C1-R3
	Date		20-Oct-10		20-Oct-10		21-Oct-10
	Start Time		09:30		13:00	09:04	
	Stop Time		12:32	16:02			12:07
	Units						
Sample Volume	dscf		117.866		123.649		114.675
Sample Volume	m³		3.34		3.50		3.25
Moisture Content	% v/v		13.9		13.8		14.0
O ₂ Concentration	% v/v (dry)		15.60		15.90		15.40
CO ₂ Concentration	% v/v (dry)		4.20		4.00		4.20
Isokinetics	%		97		97		97
Stack Flowrate	dscfm		33,283		34,813		32,531
PCDD / PCDF		pg	ng/m³	pg	ng/m³	pg	ng/m³
Parameters	TEF (a)	1.5	TEQ		TEQ	1 0	TEQ
2,3,7,8-TCDD	1.00	51.60	1.5E-02	36.30	1.0E-02	37.4	1.2E-02
1,2,3,7,8-PeCDD	0.50	29.6	4.4E-03	19.40	2.8E-03	18.10	2.8E-03
1,2,3,4,7,8-HxCDD	0.10	5.80	1.7E-04	3.89	1.1E-04	(12.41)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	12.00	3.6E-04	7.09	2.0E-04	(11.57)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(10.60)	0.0E+00	3.29	9.4E-05	(10.65)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	41.20	1.2E-04	28.6	8.2E-05	19.21	5.9E-05
OCDD	0.001	38.3	1.1E-05	41.7	1.2E-05	28.3	8.7E-06
2,3,7,8-TCDF	0.10	1,013	3.0E-02	639	1.8E-02	611	1.9E-02
1,2,3,7,8-PeCDF	0.05	356	5.3E-03	224.7	3.2E-03	204	3.1E-03
2,3,4,7,8-PeCDF	0.50	606	9.1E-02	421.0	6.0E-02	347	5.3E-02
1,2,3,4,7,8-HxCDF	0.10	123.6	3.7E-03	93.8	2.7E-03	74.6	2.3E-03
1,2,3,6,7,8-HxCDF	0.10	123.4	3.7E-03	92.3	2.6E-03	71.7	2.2E-03
2,3,4,6,7,8-HxCDF	0.10	90.3	2.7E-03	80.1	2.3E-03	58.2	1.8E-03
1,2,3,7,8,9-HxCDF	0.10	23.90	7.2E-04	23.30	6.7E-04	14.40	4.4E-04
1,2,3,4,6,7,8-HpCDF	0.01	69.4	2.1E-04	77.3	2.2E-04	51.7	1.6E-04
1,2,3,4,7,8,9-HpCDF	0.01	5.24	1.6E-05	(11.63)	0.0E+00	3.64	1.1E-05
OCDF	0.001	8.63	2.6E-06	14.50	4.1E-06	9.26	2.9E-06
TOTAL TEQs (ng/m³)		=	0.1581		0.1037		0.0967
TOTAL TEQs (ng/m³ (@ 7 % O2)	=	0.4100		0.2847		0.2416
TOTAL TEQs (g/s)		=	2.5E-09		1.7E-09		1.5E-09

AVG: 0.3121

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

⁽a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Table 6-6 PCDD/PCDF Emission Results for Condition 1RT

	Run No.		C1RT-R1		C1RT-R2		C1RT-R3
	Date		11-Jan-11		11-Jan-11		12-Jan-11
	Start Time		08:49		12:35	09:03	
	Stop Time		11:50		15:37		12:04
	Units						
Sample Volume	dscf		116.829	121.178		114.948	
Sample Volume	m³		3.31		3.43		3.26
Moisture Content	% v/v		13.1		13.0		12.6
O ₂ Concentration	% v/v (dry)		15.00		15.02		14.56
CO ₂ Concentration	% v/v (dry)		4.76		4.69		4.38
Isokinetics	%		101		101		99
Stack Flowrate	dscfm		29,857		30,910		29,979
PCDD / PCDF		pg	ng/m³	pg	ng/m³	pg	ng/m³
Parameters	TEF (a)	. 0	TEQ	, 0	TEQ	, ,	TEQ
2,3,7,8-TCDD	1.00	5.98	1.8E-03	6.08	1.8E-03	5.98	1.8E-03
1,2,3,7,8-PeCDD	0.50	9.70	1.5E-03	9.80	1.4E-03	(8.24)	0.0E+00
1,2,3,4,7,8-HxCDD	0.10	(10.3)	0.0E+00	(9.59)	0.0E+00	(12.2)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	4.74	1.4E-04	5.13	1.5E-04	(11.4)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(9.39)	0.0E+00	(8.95)	0.0E+00	(11.1)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	16.1	4.9E-05	13.3	3.9E-05	8.35	2.6E-05
OCDD	0.001	11.5	3.5E-06	6.16	1.8E-06	(29.2)	0.0E+00
2,3,7,8-TCDF	0.10	69.8	2.1E-03	88.2	2.6E-03	37.1	1.1E-03
1,2,3,7,8-PeCDF	0.05	32.4	4.9E-04	41.2	6.0E-04	17.1	2.6E-04
2,3,4,7,8-PeCDF	0.50	55.0	8.3E-03	71.4	1.0E-02	32.6	5.0E-03
1,2,3,4,7,8-HxCDF	0.10	13.2	4.0E-04	18.2	5.3E-04	8.13	2.5E-04
1,2,3,6,7,8-HxCDF	0.10	15.8	4.8E-04	19.0	5.5E-04	8.58	2.6E-04
2,3,4,6,7,8-HxCDF	0.10	14.9	4.5E-04	16.9	4.9E-04	9.34	2.9E-04
1,2,3,7,8,9-HxCDF	0.10	(5.93)	0.0E+00	3.08	9.0E-05	(5.44)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	15.5	4.7E-05	13.5	3.9E-05	(10.4)	0.0E+00
1,2,3,4,7,8,9-HpCDF	0.01	(7.12)	0.0E+00	(7.38)	0.0E+00	(4.35)	0.0E+00
OCDF	0.001	(20.1)	0.0E+00	(15.6)	0.0E+00	(24.2)	0.0E+00
TOTAL TEQs (ng/m³)		=	0.0158		0.0187		0.0091
TOTAL TEQs (ng/m³ (@ 7 % O2)	=	0.0368		0.0437		0.0197
TOTAL TEQs (g/s)		=	2.2E-10		2.7E-10		1.3E-10

AVG: 0.0334

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

⁽a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Table 6-7 PCDD/PCDF Emission Results for Condition 1A

	Run No.		C1A-R1		C1A-R2		C1A-R3
	Date		12-Jan-11		13-Jan-11		13-Jan-11
	Start Time		13:33		08:33	12:00	
	Stop Time		16:35	11:35			15:30
	Units						
Sample Volume	dscf		141.163		148.628		142.208
Sample Volume	m³		4.00		4.21		4.03
Moisture Content	% v/v		12.6		12.5		12.0
O ₂ Concentration	% v/v (dry)		15.57		16.13		16.09
CO ₂ Concentration	% v/v (dry)		3.87		3.93		3.98
Isokinetics	%		99		100		99
Stack Flowrate	dscfm		36,658		38,197		36,831
PCDD / PCDF		pg	ng/m³	pg	ng/m³	pg	ng/m³
Parameters	TEF (a)	, 0	TEQ	'	TEQ		TEQ
2,3,7,8-TCDD	1.00	5.64	1.4E-03	3.59	8.5E-04	7.50	1.9E-03
1,2,3,7,8-PeCDD	0.50	9.79	1.2E-03	6.79	8.1E-04	7.00	8.7E-04
1,2,3,4,7,8-HxCDD	0.10	(15.0)	0.0E+00	(11.2)	0.0E+00	(11.6)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	(14.0)	0.0E+00	(10.5)	0.0E+00	(10.8)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(13.7)	0.0E+00	(10.2)	0.0E+00	(10.5)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	13.7	3.4E-05	13.4	3.2E-05	11.0	2.7E-05
OCDD	0.001	5.79	1.4E-06	13.0	3.1E-06	11.0	2.7E-06
2,3,7,8-TCDF	0.10	50.4	1.3E-03	38.6	9.2E-04	40.7	1.0E-03
1,2,3,7,8-PeCDF	0.05	26.5	3.3E-04	18.9	2.2E-04	18.8	2.3E-04
2,3,4,7,8-PeCDF	0.50	47.6	6.0E-03	27.7	3.3E-03	32.2	4.0E-03
1,2,3,4,7,8-HxCDF	0.10	(11.3)	0.0E+00	7.55	1.8E-04	8.75	2.2E-04
1,2,3,6,7,8-HxCDF	0.10	12.0	3.0E-04	(8.40)	0.0E+00	8.90	2.2E-04
2,3,4,6,7,8-HxCDF	0.10	9.54	2.4E-04	7.14	1.7E-04	7.64	1.9E-04
1,2,3,7,8,9-HxCDF	0.10	(7.19)	0.0E+00	(5.29)	0.0E+00	(5.02)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	10.5	2.6E-05	7.45	1.8E-05	6.92	1.7E-05
1,2,3,4,7,8,9-HpCDF	0.01	(10.9)	0.0E+00	(7.39)	0.0E+00	(6.29)	0.0E+00
OCDF	0.001	(22.4)	0.0E+00	(17.1)	0.0E+00	(14.9)	0.0E+00
TOTAL TEQs (ng/m³)		=	0.0108		0.0065		0.0086
TOTAL TEQs (ng/m³ (@ 7 % O ₂)	=	0.0278		0.0187		0.0247
TOTAL TEQs (g/s)		=	1.9E-10		1.2E-10		1.5E-10

AVG: 0.0237

(a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

6.3 Particulate Matter, Hydrogen Chloride and Chlorine

Sampling for PM / HCI / Cl_2 was performed during Condition 2 only in accordance with EPA Reference Method 26A and was followed as written without modification. The sampling runs involved isokinetic sampling at 12 points (6 points per traverse) with an overall net run length of 120 minutes. Sampling was conducted for 10 minutes per point with meter box readings taken every 5 minutes. PM sample train fractions (front-half rinse, particulate filter and field blanks) were submitted to **AECOM's** laboratory in Harvard, MA for gravimetric analysis. Sample train fractions (including field blanks) for

HCl and Cl₂ determination were submitted to **TestAmerica (West Sacramento, CA)** for analysis by ion chromatography. Prior to final packing of the recovered samples, the contents of impingers 5 and 6 (for total chlorine determination) were treated with 2-3 mL of sodium thiosulfate as specified in the method.

The Method 26A sampling train consisted of 7 glass impingers connected in series with leak-free ground glass and Teflon o-ring connections. The first impinger was filled with 50-mL of $0.1N\ H_2SO_4$; each of the second and third impingers were filled with 100-mL of $0.1N\ H_2SO_4$; the fourth impinger was left empty; the fifth and sixth impingers were each filled with 100-mL of $0.1N\ NaOH$; and the seventh impinger was loaded with ~ 200 - $400\ g$ of silica gel.

Particulate emissions for Condition 2 were well below the MACT standard (0.025 gr/dscf corrected to $7\% O_2$). Results are shown in **Table 6-8**.

Table 6-8 Particulate Emission Results for Condition 2

Run No.		C2-R1	C2-R2	C2-R3	
Date		19-Oct-10	19-Oct-10	19-Oct-10	
Start Time	Units	10:58	14:40	17:58	
Stop Time		13:04	16:45	20:02	AVGS
Sampling Parameters					
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79
Volume Metered	dcf	89.567	90.510	90.284	90.120
Volume of Gas Collected	dscf	92.271	91.981	91.896	92.049
Moisture	% v/v	12.4	11.9	13.7	12.6
O ₂ at Stack	% dry	13.37	15.80	15.80	14.99
CO ₂ at Stack	% dry	3.90	4.00	4.00	3.97
Avg. Stack Temp.	°F	129	131	132	131
Stack Flowrate	dscfm	36,874	36,990	36,256	36,707
Isokinetics	%	101.1	100.5	102.4	101.3
Particulate Matter					
Front Half Rinse	mg	5.9	10.0	4.1	6.7
Particulate Filter	mg	7.7	49.1	12.1	23.0
Total Particulate	mg	13.6	59.1	16.2	29.6
PM Loading @ 7% O ₂	mg/dscm	9.5	61.1	16.8	29.1
Grain Loading	gr/dscf	0.0023	0.0099	0.0027	0.0050
Grain Loading @ 7% O₂	gr/dscf	0.0042	0.0266	0.0073	0.0127
Emission Rate	lb/hr	0.72	3.14	0.84	1.57

HCl and Cl_2 emissions for Condition 2 were well below the MACT standard (600 ppm(v) expressed as chloride equivalents corrected to 7% O_2). Results are shown in **Table 6-9**.

Table 6-9 Emission Results for Hydrogen Chloride and Chlorine for Condition 2

Run No. Date Start Time Stop Time	Units	C2-R1 19-Oct-10 10:58 13:04	C2-R2 19-Oct-10 14:40 16:45	C2-R3 19-Oct-10 17:58 20:02	AVGS
Sampling Parameters					
Barometric Pressure Volume Metered Volume of Gas Collected Moisture O ₂ at Stack	in. Hg dcf dscf % v/v % dry	29.81 89.567 92.271 12.4 13.37 3.90	29.81 90.510 91.981 11.9 15.80 4.00	29.75 90.284 91.896 13.7 15.80 4.00	29.79 90.120 92.049 12.6 14.99 3.97
CO₂ at Stack Avg. Stack Temp. Stack Flowrate Isokinetics	% dry °F dscfm %	3.90 129 36,874 101	4.00 131 36,990 100	4.00 132 36,256 102	3.97 131 36,707 101
HCI Emission Results - Total HCI Detected Total HCI Concentration Conc. @ 7% O ₂ HCI Emission Rate	µg ppm ppm Ib/hr	94,300 23.73 43.52 4.985	177,000 44.68 120.30 9.415	182,000 45.99 123.81 9.498	151,100 38.13 95.88 7.966
Cl ₂ Emission Results					
Total Cl ₂ Detected Total Cl ₂ Concentration Conc. @ 7% O ₂ Cl ₂ Emission Rate	µg ppm ppm Ib/hr	1,500 0.20 0.36 0.079	1,700 0.22 0.60 0.090	1,400 0.18 0.50 0.073	1,533 0.20 0.49 0.081
HCI / Cl ₂ Combined Results Concentration @ 7% O ₂ (HCI Equivalents)	ppm	44.3	121.7	125.0	97.0

6.4 Metals

Sampling for MACT metals (arsenic, beryllium, cadmium, chromium, lead and mercury) was performed during Condition 2 only in accordance with EPA Reference Method 29 and was followed as written without modification. The sampling runs involved isokinetic sampling at 12 points (6 points per traverse) with an overall net run length of 120 minutes. Sampling was conducted for 10 minutes per point with meter box readings taken every 5 minutes. The Method 29 sampling train consisted of 7 glass impingers connected in series with leak-free ground glass and Teflon o-ring connections. The first impinger was left empty and the second and third impingers were each filled with 100-mL of 5% HNO₃/10% H₂O₂; the fourth impinger was left empty; the fifth and sixth impingers were each filled with

100-mL of 10% $H_2SO_4/4\%$ KMnO₄; and the seventh impinger was loaded with ~ 200-400 g of silica gel.

All sample train fractions (including field blanks) were submitted to **TestAmerica (West Sacramento, CA)** for analysis. All metals except mercury were analyzed by inductively coupled plasma / mass spectrometry (ICP-MS) while mercury was analyzed by cold vapor atomic absorption spectrometry (CVAAS).

Emission results for all metals demonstrated full compliance with the respective MACT standards. The applicable MACT standards are 110 μ g/dscm for low volatile metals (arsenic, beryllium and chromium); 250 μ g/dscm for semivolatile metals (cadmium and lead); and 120 μ g/dscm for mercury. All standards are corrected to 7% O_2 . Results for all metals are shown in **Table 6-10**. The MACT rule for LWAKs also specifies emission standards for LVM and SVM based on thermal input of the hazardous waste fired (i.e., LLGF). These calculations are also shown in Table 6-10.

Table 6-10 Emission Results for Metals for Test Condition 2

Run No.		C2-R1	C2-R2	C2-R3	
Date		19-Oct-10	19-Oct-10	19-Oct-10	
Start Time	Units	10:58	14:40	17:58	
Stop Time		13:04	16:45	20:02	AVGS
Sampling Parameters					
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79
Volume Metered	dcf	92.568	94.763	94.637	93.989
Sample Volume	dscf	92.518	93.539	93.610	93.222
Moisture	% v/v	12.6	12.6	13.6	12.9
O ₂ at Stack	% dry	13.37	15.80	15.80	14.99
Avg. Stack Temp.	°F	130	133	133	132
Stack Flowrate	dscfm	36,551	36,641	36,321	36,504
Isokinetics	%	96	97	98	97
Arsenic (As)	LVM				
Quantity Collected	μg	1.40	1.30	1.50	1.40
Stack Conc. @ 7% O ₂	μg/m³	0.98	1.32	1.52	1.27
Stack Emission Rate	lb/hr	7.32E-05	6.74E-05	7.70E-05	7.25E-05
	g/sec	9.22E-06	8.49E-06	9.70E-06	9.14E-06
Beryllium (Be)	LVM				
Quantity Collected	μg	0.06	0.05	0.05	0.05
Stack Conc. @ 7% O ₂	μg/m³	0.04	0.05	0.05	0.05
Stack Emission Rate	lb/hr	3.14E-06	2.59E-06	2.57E-06	2.76E-06
	g/sec	3.95E-07	3.26E-07	3.23E-07	3.48E-07
Total Chromium (Cr)	LVM				
Quantity Collected	μg	33.1	53.0	28.2	38.1
Stack Conc. @ 7% O ₂	μg/m³	23.2	53.9	28.6	35.2
Stack Emission Rate	lb/hr	1.73E-03	2.75E-03	1.45E-03	1.97E-03
	g/sec	2.18E-04	3.46E-04	1.82E-04	2.49E-04
Feed Quantity	lb/hr	5.96	5.64	5.29	5.63
Removal Efficiency	%	99.971%	99.951%	99.973%	99.965%
LVM Total =	μg/m³	24.2	55.2	30.2	36.6
LVM Total =	lb/10 ⁶ Btu	3.5E-05	5.3E-05	2.9E-05	3.9E-05

(continued) Pg 1of 3

Table 6-10 (continued)

Run No.		C2-R1	C2-R2	C2-R3	
Date		19-Oct-10	19-Oct-10	19-Oct-10	
Start Time	Units	10:58	14:40	17:58	
Stop Time		13:04	16:45	20:02	AVGS
Sampling Parameters					
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79
Volume Metered	dcf	92.568	94.763	94.637	93.989
Sample Volume	dscf	92.518	93.539	93.610	93.222
Moisture	% v/v	12.6	12.6	13.6	12.9
O ₂ at Stack	% dry	13.37	15.80	15.80	14.99
Avg. Stack Temp.	°F	130	133	133	132
Stack Flowrate	dscfm	36,551	36,641	36,321	36,504
Isokinetics	%	96	97	98	97
Cadmium (Cd)	SVM				
Quantity Collected	μg	4.20	4.80	5.36	4.79
Stack Conc. @ 7% O₂	μg/m³	2.94	4.88	5.44	4.42
Stack Emission Rate	lb/hr	2.19E-04	2.49E-04	2.75E-04	2.48E-04
	g/sec	2.77E-05	3.13E-05	3.47E-05	3.12E-05
Lead (Pb)	SVM				
Quantity Collected	μg	43.1	52.5	65.6	53.7
Stack Conc. @ 7% O ₂	µg/m³	30.2	53.4	66.6	50.1
Stack Emission Rate	lb/hr	2.25E-03	2.72E-03	3.37E-03	2.78E-03
	g/sec	2.84E-04	3.43E-04	4.24E-04	3.50E-04
Feed Quantity	lb/hr	6.10	6.07	6.43	6.20
Removal Efficiency	%	99.963%	99.955%	99.948%	99.955%
SVM Total =	μg/m³	33.1	58.2	72.1	54.5
SVM Total =	lb/10 ⁶ Btu	4.8E-05	5.6E-05	6.8E-05	5.7E-05

(continued) Pg 2 of 3

Table 6-10 (continued)

Run No.		C2-R1	C2-R2	C2-R3	
Date		19-Oct-10	19-Oct-10	19-Oct-10	
Start Time	Units	10:58	14:40	17:58	
Stop Time		13:04	16:45	20:02	AVGS
Sampling Parameters					
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79
Volume Metered	dcf	92.568	94.763	94.637	93.989
Sample Volume	dscf	92.518	93.539	93.610	93.222
Moisture	% v/v	12.6	12.6	13.6	12.9
O ₂ at Stack	% dry	13.37	15.80	15.80	14.99
Avg. Stack Temp.	°F	130	133	133	132
Stack Flowrate	dscfm	36,551	36,641	36,321	36,504
Isokinetics	%	96	97	98	97
Mercury (Hg)	VM				
Quantity Collected	μg	36.2	40.1	34.1	36.8
Stack Conc. @ 7% O ₂	μg/m³	25.3	40.8	34.6	33.6
Stack Emission Rate	lb/hr	1.89E-03	2.08E-03	1.75E-03	1.91E-03
	g/sec	2.38E-04	2.62E-04	2.21E-04	2.40E-04
Feed Quantity	lb/hr	0.0115	0.0102	0.0108	0.0109
Removal Efficiency	%	83.59%	79.71%	83.80%	82.37%

Pg 3 of 3

6.5 POHC DRE

The emission rate for the POHC, MCB was evaluated using EPA Method 0031, the volatile organic sampling train (VOST). Destruction/Removal Efficiency (DRE) testing was performed during Condition 1A only. Sample analyses were performed by **Air Toxics, Ltd. (Folsom, California)**. A summary of sampling parameters associated with all VOST runs is shown in **Table 6-11**. VOST runs were completed concurrently with the separately operated Method 0023A sampling train and, therefore, stack flow rates used in conjunction with the VOST DRE determinations represent the flow rates determined from the PCDD/PCDF sampling train. Emission results and computed DREs for MCB are shown in **Table 6-12**. All runs exhibited DREs well above the minimum (99.99%) required; the overall average was 99.9977%.

Table 6-11 VOST Sampling Parameters for Condition 1A

	Bar.	Run	Sampling Times		Sample	Meter	Sample
Date	Press. in Hg	ID No.	Start	Stop	Volume aL	Temp. °C	Volume dsL
12-Jan-11	29.60	1A	14:03	14:23	20.040	0.4	22.473
12-Jan-11	29.60	1B	14:33	14:53	19.540	1.75	21.805
12-Jan-11	29.60	1C	15:04	15:24	18.810	3.0	20.895
12-Jan-11	29.60	1D	15:37	15:57	19.960	3.0	22.172
13-Jan-11	30.05	2A	09:00	09:20	19.160	-3.5	22.128
13-Jan-11	30.05	2B	09:28	09:48	19.380	-1.75	22.238
13-Jan-11	30.05	2C	10:14	10:34	19.130	-2.0	21.971
13-Jan-11	30.05	2D	10:41	11:01	19.200	-0.5	21.930
13-Jan-11	30.10	3A	12:30	12:50	18.890	-1.5	21.692
13-Jan-11	30.10	3B	12:59	13:19	19.600	-1.0	22.466
13-Jan-11	30.10	3C	13:32	13:52	19.200	-1.5	22.048
13-Jan-11	30.10	3D	14:26	14:46	20.490	-1.5	23.529
DGM Y =	1.0577						

Table 6-12 DRE Calculations for Monochlorobenzene for Test Condition 1A

	РОН	C Feed	Parame	eters				Stack Gas Parameters			
		Waste	Native	Native	MCB			MCB	(a)	MCB	
	Run Date	Feed	MCB	MCB	Spike	VOST	Volume	Quantity	Stack Gas	Emission	
Run	Start Time	Rate	Conc.	Feed Rate	Rate	Run	Sampled	Detected	Flow rate	Rate	Calculated
No.	Stop Time	(lb/hr)	(% w t.)	(lb/hr)	(lb/hr)	No.	(dsL)	(µg)	(dscfm)	(lb/hr)	DRE
C1A-R1	12-Jan-11					1-A	22.473				
	14:03					1-B	21.805				
	15:57					1-C	HOLD				
						1-D	22.172				
Overall	C1A-R1:	0.0	0.00%	0.00	60.03		66.450	0.805	36,658	1.66E-03	99.9972%
C1A-R2	13-Jan-11					2-A	22.128				
	09:00					2-B	22.238				
	11:01					2-C	HOLD				
						2-D	21.930				
Overall	C1A-R2:	0.0	0.00%	0.00	75.01		66.297	0.745	38,197	1.61E-03	99.9979%
C1A-R3	13-Jan-11					3-A	21.692				
	12:30					3-B	22.466				
	14:46					3-C	HOLD				
						3-D	23.529				
Overall	C1A-R3:	0.0	0.00%	0.00	75.06		67.687	0.775	36,831	1.58E-03	99.9979%
					AVG	RE, CONDI	TION 1A:	99.9977%			

⁽a) The stack gas flow rate used for the VOST runs is taken from the concurrently running Method 0023A sampling train.

7.0 Quality Assurance/Quality Control Documentation

This test program incorporated a variety of QA/QC measures to ensure the validity of the final results for documentation of the performance of Norlite's lightweight aggregate kilns. These measures were based upon routine field and laboratory practices as well as specific requirements delineated in the approved MACT CPT Plan (Revision 2 dated August 6, 2010) and the applicable sampling and analytical protocols. In addition, an addendum to the CPT Plan submitted to NYSDEC on December 23, 2010 was followed with respect to DRE testing and associated spiking of MCB.

This section presents the results of all QA/QC measures evaluated during both field sampling programs (October 2010 and January 2011) and during all phases of sample analysis. Data generated for the program are judged to be completely valid since overall accuracy and precision goals consistent with general program objectives were achieved. Analytical QA/QC data are presented to support all sample results used for determining compliance with performance criteria and/or emission standards.

7.1 Sample Collection QA/QC

7.1.1 Kiln Feed Materials

The LLGF and shale fed to the kiln during each test phase were sampled from appropriate locations, as done on all previous sampling programs. In the case of LLGF, the sample tap was located upstream of the MCB injection location used during test condition 1A. For shale, the samples were collected from the shale feed belt. The feed streams were sampled in accordance with the procedures and methodologies currently described in Norlite's FSAP. The feed materials were fully characterized and the analytical results are provided in **Appendix D** of this final report. No problems were encountered during the collection of the LLGF and shale feed streams.

7.1.2 Stack Gas

All samples were collected at the lower sampling platform on the Kiln 1 exhaust stack as planned. One (1) field blank of each isokinetic sampling train was also submitted for analysis during each individual sampling event. For the VOST methodology, two field blanks (one for each day of testing) and one trip blank were also submitted along with program samples. No audit samples were presented by the regulatory agency (NYSDEC) for either test program.

Sampling QA/QC measures for this program included the calibration of all applicable sampling equipment used as described below. Field equipment were calibrated according to EPA procedures specified in EPA/600/R-94/038e (September 1994) and 40 CFR 60, Methods 1-5, as well as manufacturer's specifications.

1) Dry Gas Meters and Orifice Meters (EPA Method 5 Type) -- Dry gas meters for all sampling trains are calibrated using critical orifices. The procedure entails four runs using four separate critical orifices running at an actual vacuum 1-2 in. greater than the theoretical critical vacuum. The minimum sample volume required per orifice is 5 ft³. Meter boxes are calibrated annually and then verified by use of the alternative Method 5 post-test calibration procedure. This procedure is referenced as Approved Alternate Method ALT-009 (June 21, 1994) by EPA's Emission Measurement Center. The

average Y-value obtained by this method must be within 5% of the initial Y-value. The calculations provided with the data sheets in **Appendix E** show that this criterion was met for all of the isokinetic sampling trains used on both test programs. These results are summarized in the two tables below. All annual calibration forms for all meter boxes are also provided in **Appendix E**.

Isokinetic Meter Box Calculations for the October 2010 Test Program

Isokinetic Meter Box	Test Parameter	Total Number of Runs	Average Deviation from. Pre-Y
80612	Method 0023A	6	4.37%
0808028	Method 26A	3	4.43%
80102	Method 29	3	0.70%

(a) Tolerance: ± 5% of initial Y value

Isokinetic Meter Box Calculations for the January 2011 Test Program

Isokinetic Meter Box	Test Parameter	Total Number of Runs	Average Deviation from. Pre-Y
0808030	Method 0023A	6	0.97%

(a) Tolerance: ± 5% of initial Y value

Similarly, the post-test calibration of VOST Box # VO14 (performed as a full recalibration) was well within the acceptable criterion of \pm 5%. These results (for the January 2011 test program) are shown in the table below.

VOST Box	Test Parameter	Pre-Test Y	Post-Test Y	Average Deviation from Pre-Y
VO14	Method 0031	1.0577	1.0614	0.35%

(a) Tolerance: ± 5% of initial Y value

- 2) Sampling Nozzles -- Each glass nozzle is calibrated with a micrometer prior to testing and identified with a unique ID number. These data are then checked onsite prior to use. Any stainless steel nozzles used during the program are calibrated onsite prior to testing. The internal diameter of each nozzle used is measured to 0.001 inches along three points of the circumference with a dial vernier caliper and the three measurements are then averaged. Nozzle calibration data are provided in Appendix E.
- **3) Balance** -- The analytical balance used in the field to determine initial and final silica gel weights is calibrated against Class M weights provided by the Mettler Corporation.

4) Thermocouples -- The Type K thermocouples in each meter control box, heated sample box, impinger umbilical connector, XAD resin trap and sample probe are calibrated against ASTM mercury-in-glass thermometers at two or more points: an ice bath, ambient temperature and/or boiling water bath. Calibration data are provided in **Appendix E**.

5) Pitot Tubes -- Each S-type stainless steel pitot tube used is designed to meet geometric configurations as defined in EPA Method 2. Sample probe calibration data forms are provided in **Appendix E**.

Chain-of-custody (COC) procedures for all stack samples was initiated and maintained as follows:

- Samples were collected, sealed and labeled with preprinted sample labels. Each
 isokinetic train was setup and recovered in an office trailer set up in close proximity to the
 Kiln 1 exhaust stack.
- Preprinted sample lists were used to check that all samples were collected and each container was checked upon completion of recovery and labeling.
- All samples were packed in bubble wrap or other absorbent material and placed in either sample coolers or appropriate DOT shipping packages (dangerous goods items). All samples were subsequently shipped via Priority Overnight FedEx service to the designated laboratory. Sample shipment documentation is also provided in **Appendix E**.

7.2 Laboratory Analysis QA/QC

This section provides a detailed presentation of QA/QC results from sample analysis as reported by each analytical laboratory. Key QC data related to matrix spikes, surrogate spikes, duplicate analyses, laboratory control samples (blank spikes), method blanks and/or field blank results are presented in tabular format. Other routine QC procedures followed such as calibration checks and additional method-specific protocols are described in the case narratives and analytical data packages provided in **Appendix F**. Also, unless noted otherwise, all holding times and method-specific QC criteria were met and reported results met all applicable NELAC requirements.

7.2.1 Kiln Feed Streams

The kiln feed materials (LLGF and shale) were analyzed in accordance with the approved CPT Plan and consistent with-Norlite's FSAP pursuant to the MACT regulations. Analysis and QA/QC procedures followed the approved test methods contained in these documents.

Evaluation of the validity of the total chloride analyses was based on the following QA objectives:

- Results of analysis of laboratory control samples (LCS or blank spikes) and/or standard reference materials.
- Results of duplicate sample analyses and/or LCS / LCSD.
- Results of analysis of method blanks.

Results summarized in **Table 7-1** indicate that all parameters were generally within limits established for the program. Therefore, program quality objectives were met and completeness was determined to be 100% for the kiln feed total chlorine analyses.

Table 7-1 Overall QC Summary for Total Chlorine in Kiln Feed Samples

QC Data Summary for the October 2010 Test Program

QC Parameter	Target Criteria	Program Results			
Accuracy - Spikes	80% – 120% of Expected Value	Matrix spikes exceeded target criteria, but the spike amount was only 25% of the background concentration. Results may be biased high.			
Precision – Duplicate Preparation and Analysis of One Run's Sample (C1-R2 for LLGF and C2-R3 for Shale)	10% RPD	All results within limits			
Method Blanks	Below Detection Limit	All results ND or below RL			

QC Data Summary for the January 2011 Test Program

QC Parameter	Target Criteria	Program Results
Accuracy - Spikes	80% – 120% of Expected Value	All results within limits
Precision – Duplicate Preparation and Analysis of One Run's Sample (C1A-R3)	10% RPD	All results within limits
Method Blanks	Below Detection Limit	All results ND or below RL

Evaluation of the validity of the LLGF and shale <u>metals analyses</u> was based on the following QA objectives:

- Results of analysis of laboratory control samples and matrix spikes;
- Results of analysis of a pre-digestion spike;
- Results of analysis of duplicate analyses, MS / MSD and/or LCS / LCSD; and
- Results of analysis of method blanks.

Results summarized in **Table 7-2** indicate that program quality objectives were met and that completeness was therefore determined to be 100% for all waste feed metals analyses.

Table 7-2 Overall QC Summary for Metals in Kiln Feed Samples

QC Data Summary for the October 2010 Test Program

QC Parameter	Target Criteria	Program Results
Accuracy – Post- Digestion Spikes	70% – 130% Recovery	All results within limits except for Pb in LLGF-C1-R1. The native level of Pb was too high compared to the spike amount to produce usable recovery data.
Accuracy – Spiked Samples	70% – 130% Recovery	LLGF: All results within limits except for Hg in LLGF-C1-R1B which recovered low and may indicate a low bias. Low level matrix spike results for all metals in LLGF-C2-R1 exceeded limits because the native concentration was too high compared to the spike level. The high level spike on this samples was in control for all elements except Cr, which may indicate a low bias in the Cr result.
		Shale: The Hg spike recovery in SHALE-C2-R1 exceeded criteria and may indicate a high bias in the reported result. Low level matrix spike results for all metals in SHALE-C1-R1 exceeded limits because the native concentration was too high compared to the spike level. The high level spike on this samples was in control for all elements except As, Cd, Pb, and Zn, which may indicate a low bias in the As and Zn results, whereas the Cd and Pb results may be biased high.
Precision – Duplicate Preparation and Analysis of One Sample from each Matrix	Range < 35% if Sample Result Above Lowest Standard	All results within limits
Method Blanks	Below Detection Limit	All results ND or below RL

QC Data Summary for the January 2011 Test Program

QC Parameter	Target Criteria	Program Results
Accuracy – Post-Digestion Spikes	70% – 130% Recovery	All results within limits
Accuracy – Spiked Samples	70% – 130% Recovery	LLGF: All results within limits except Cd, Cu, Pb, Ni and Zn. The native levels of these 5 metals was too high to allow accurate recovery of the spike. Shale: All results within limits except As, Pb and Zn
Precision – Duplicate Preparation and Analysis of One Sample from each Matrix (C1RT-R1)	Range < 35% if Sample Result Above Lowest Standard	LLGF: All results within limits except As Shale: All results within limits
Method Blanks	Below Detection Limit	All results ND or below RL

All feed stream analysis results and associated QC data are provided in **Appendix D** of this document. All of the analyses met the QC requirements associated with each method.

7.2.2 Stack Gas Analyses

7.2.2.1 PCDDs/PCDFs

Evaluation of the validity of the PCDD/PCDF data resultant from the analysis of the Method 0023A sampling train samples was based on the following criteria:

- Recoveries of internal, pre-spike and alternate recovery standards added to the samples prior to sampling or sample extraction.
- Results of analysis of an ongoing precision and recovery (OPR) study for the 17 PCDD/PCDF isomers listed in EPA Method 0023A.
- Results of analyses of field and method blank samples.

Results for the CPT are presented separately for the two test programs. On the basis of the QC results summarized in **Table 7-3**, no sample analyses were rejected, and all data were determined to be valid.

Table 7-3 Overall QC Summary for PCDDs/PCDFs in Stack Gas Samples

QC Data Summary for the October 2010 Test Program

QC Parameter	Target Criteria	Program Results
Field Blank	Below detection limit	ND for all 17 congeners
Method Blank	Below detection limit	ND for all 17 congeners
Ongoing Precision and Recovery (OPR) Study	70 – 130% recovery	All congeners within limits
Accuracy for Internal Standards (IS) and alternate recovery standard (AS)	40 – 135% recovery	All labeled standards within limits
Accuracy for pre-spike recovery standards (PS)	70 – 130% recovery	All labeled standards within limits

QC Data Summary for the January 2011 Test Program

QC Parameter	Target Criteria	Program Results			
Field Blank	Below detection limit	ND for all 17 congeners			
Method Blank	Below detection limit	ND for all 17 congeners			
Ongoing Precision and Recovery (OPR) Study	70 – 130% recovery	All congeners within limits			
Accuracy for Internal Standards (IS) and alternate recovery standard (AS)	40 – 135% recovery	All labeled standards within limits			
Accuracy for pre-spike recovery standards (PS)	70 – 130% recovery	All labeled standards within limits			

7.2.2.2 VOST Analyses

Evaluation of the validity of the data resultant from the analysis of the VOST samples for the CPT retest for the volatile POHC (monochlorobenzene) was based on the following indicators:

- Recovery of a surrogate compound (Toluene d-8) added to the VOST samples prior to analysis;
- Replicate analysis of two traps spiked with standards (LCS samples);
- Separate analysis of the Anasorb VOST tubes for each VOST tube set to determine whether compound breakthrough had occurred; and
- Results of analyses of field, trip and lab blank samples.

Results for the CPT are presented for the January 2011 test program. No MCB was detected in any condensate samples or in any Anasorb sorbent fraction. Low levels (220-270 ng) of MCB were detected in the Tenax sorbent fraction. Surrogate recoveries reported for the Anasorb fraction were consistently low (21-46%) versus a lower target limit of 50%. This has been an historical problem with Method 0031, but based on the levels observed in this program is not believed to have any negative impact on the final data reported and resulting DRE calculations. Based on the overall results summarized in **Table 7-4**, completeness was determined to be 100% for all VOST analyses.

Table 7-4 Overall QC Summary for Volatile Organics in Stack Gas Samples

QC Data Summary for the January 2011 Test Program

QC Parameter	Target Criteria	Program Results
Field and Trip Blanks	Below detection limit	No MCB detected
Method Blanks	Below detection limit	No MCB detected
Lab Control Samples	50%-150% recovery	All samples within limits
Breakthrough Determination	Anasorb trap should contain < 75 ng or < 30% of amount on two TX traps.	No breakthrough observed
Accuracy-Surrogate Recoveries	50%-150% recovery (Anasorb) 70%-130% recovery (Tenax)	Consistently low (21-46%) recoveries All samples within limits

7.2.2.3 Particulate Matter

Evaluation of results of gravimetric analysis of the Method 5 samples was based on routine laboratory practices and processing of lab blank and field blank samples. Results for the CPT are presented for the October 2010 test program. No contamination was noted in either the lab acetone blank or the field blank and thus no blank correction was required. The blank filter weights were also within acceptable tolerances and required no blank correction. Additional QC measures followed by the gravimetric lab, such as maintenance of proper ambient conditions and use of standard weights, ensured valid data.

7.2.2.4 Hydrogen Chloride and Chlorine

Evaluation of the validity of chloride analysis of Method 26A train samples was based on three sets of objectives. These were:

- Results of analysis of LCS and matrix spikes;
- Results from the duplicate analysis of all samples; and
- Results of analysis of field and method blank samples.

Results for the CPT are presented for the October 2010 test program. Target criteria and results are shown in **Table 7-5**. All results met data quality objectives and completeness was therefore determined to be 100% for these parameters.

Table 7-5 Overall QC Summary for HCl and Cl₂ in Stack Gas Samples

QC Data Summary for the October 2010 Test Program

QC Parameter	Target Criteria	Program Results
Field Blank	Below detection limit	All parameters ND
Method Blank	Below detection limit	All parameters ND
Accuracy - LCS Recoveries	90%-110% recovery	All samples within limits
Accuracy - MS Recoveries	75%-125% recovery	All samples within limits
Precision - LCS / LCSD	< 20 % RPD	All samples within limits
Precision - MS / MSD	< 20 % RPD	All samples within limits
Duplicate Analyses (All samples)	0-20% RPD	All samples within limits.

7.2.2.5 Metals

Evaluation of the validity of the metals data resultant from the analysis of the Method 29 sampling trains was based on the following data quality objectives:

- Results of analysis of matrix spikes and post-digestion spikes for all target metals;
- Results of analysis of samples analyzed in duplicate and blank spike recoveries; and
- Results of analyses of field and method blank samples.

Results for the CPT are presented for the October 2010 test programs. Data summarized in **Table 7-6** show that no problems were encountered during sample analysis and all metals train data were therefore judged to be completely acceptable. It is also noted that the Method 29 blank-correction spreadsheets can be found in front of the TestAmerica data report in Appendix F.

Table 7-6 Overall QC Summary for Metals in Stack Gas Samples

QC Data Summary for the October 2010 Test Program (All Target Metals)

QC Parameter	Target Criteria	Program Results		
Field Blank	Below detection limit	Minor amounts of chromium and lead were reported above the reporting limit. Final results have been blank-corrected to the maximum extent allowed in accordance with method specific procedures.		
Method Blank	Below Detection Limit	No metals detected above the reporting limit		
Accuracy – LCS Recoveries	70%-130% Recovery	All recoveries within limits		
Precision – LCS / LCSD	Less than 35% RPD	All metals within limits		
Accuracy – Matrix Spike for Mercury (Back-Half)	70%-130% Recovery	All recoveries within limits		
Precision – Matrix Spike for Mercury (Back-Half)	Less than 35% RPD	MS / MSD precision within limits		
Duplicate Analyses	0-20% RPD (CPT Plan)	All results within limits		
	0-15% RPD (Lab Limit)	Slightly high (16%) RPD for chromium		

Appendix A

Facility Process Operating Data

Daily CEMS Calibration Sheets (January 2011)	pg A-1
Detailed Process Data Summaries (January 2011)	pg A-8
Daily CEMS Calibration Sheets (October 2010)	pg A-83
Detailed Process Data Summaries (October 2010)	.pa A-90

AECOM . Environment

Daily CEMS Calibration Sheets (January 2011)

Kiln 1/Train A Calibration Checks

Norlite Corporation
Cal Checks for 1/11/2011

Date/Time	Parameter	Analyzer Scale	Test Leve!	Reference Value	Messured Value	Actual Orift	Allowable Drift	insirument Span	Results
1/11/2011 5:00 AM	CO ppm	Low	Zaro	9,00 ppm	-0.01 ppm	-0.01 ppm	‡6 Fpm	200 ppm	Unit online; Passed
1/11/2011 5:00 AM	GO ppm	Lów	Span	170.90 apm	171.84 ppm	0.94 ppm	±\$ ppm	200 ppm	Unit online: Passed
1/11/2011 5:00 AM	GO ppm	High	Zero	0.00 ppm	-4.70 ppm	-4.7 ppm	±90 ppm	3000 ppm	Unit online; Passed
1/11/2011 5:00 AM	GO ppm	Hìgh	Span	1910.00 ppm	1915,10 ppm	5.1 ppm	# 90 ppm	3000 ppm	Unit online: Passed
1/11/2011 5:00 AM	02%	Single	Zero	0,00%	-0.01%	-0.01%	±0.5%	25%	Unit online; Passed
1/11/2014 5:00 AM	02%	Single	Span	18,07%	18.12%	0.05%	±0.5%	25%	Unii online; Passed

CeDAR Reports 1/1 1/2011 5:53 AM, Kilin 1/Trefn & Cultivation Checks

Kiln 1/Train B Calibration Checks

Norlite Corporation
Cal Checks for 1/11/2011

\$1.00mm 10mm 10mm 10mm 10mm 10mm 10mm 10m									
		Analyzar	est	Reference	Measured		Alkwabie	Instrument	
Dale/Time	Parameter	Scale	Level	Value	Value	Actual Duff	Drift	Span	Results
1/11/2011 5:30 AM	CO pam	Low	Zero	erica üülü	1.33 ppm:	1.33 ppm	38 pom	Zử ũ pjan	Unit online; Passed
1/11/2011 5:30 AM	CO ppm	Love	Span	170.80 apm	167.58 ppm	-3.35 ppm.	±3 pom	200 ppm	Unit online; Passed
1/11/2011 5:30 AM	CO ppm	High	Zero	0.00 ppm	-2 60 ppm	-2. 6 ppm	mgq 03£	3000 ppm	Unit online; Passed
1/11/2011 5:30 AM	CO pam	High	Span	1910.00 ppm	1902.80 ppm	-7.2 ppm	maq Des	3000 ppm	Lmit online; Passed
1/11/2011 5:30 AM	02%	Singla	Zero	0.00%	9.01%	0.01%	£0.5%	25%	Unit online; Passed
1/11/2011 5:39 AM	02%	Single	Span	18.07%	16,07%	9%	1 0.5%	25%	Unit online; Passed

CellAR Reports 1/1 1/2011 5:53 AM, Kiln 1/Train B Calibration Checks

Kiln 1/Train A Calibration Checks

Norlite Corporation Gal Checks for 1/12/2011

Ly of the electromagnetic and providing a state of the electromagnetic and the	Spirit plane de Marie (de la Service Spiritiste de La proposition de la marie (de la destina de la Service de La companya de la co	Analyzer	Test	Reference	Measured	t the server to the server to the server that the server to the server t	Allowable	Instrument	AND THE PROPERTY OF THE PROPER
Date/Time	Parameter	3cala	Level	Value	Valus	Actual Dr4	Orifit	Span	Results
1/12/2011 5:05 AM	GO ppm	Low	Zero	0.00 ppra	-0.59 ppm	-0.58 ppm	żő pom	200 ppin	Unit online; Passed
1/12/2011 5:05 AM	CO ppm	Low	Span	120.60 ppm	169.07 opin	-1.83 ppm	±5 ppm	200 ppm	Unit online; Passed
1/12/2019 5:05 AM	GO pam	High	Zero	0.00 ppm	-5. 9 0 ppm	-5.9 ppm	rigg 00t	mgq 0008	Unit online; Passed
1/12/2014 5:05 AM	CO ppm	High	Span	1919.00 pom	1924,70 ppm	14.7 cpm	±90 ppm	3000 ppm	Unit online; Passed
1/12/2011 5:05 AM	O2%	Single	Zero	0.00%	-0.10%	-0.1%	£0.5%	25%	Unit oners; Passed
1/12/2011 5:05 AM	02%	Single	Span	18,07%	16.13%	0.06%	±0.5%	25%	Unit online: Passed

GeDAR Reports 1/19/2011 5:44 AM, Miln 1/Brath A Calibration Checks

Kiln 1/Train B Calibration Checks

Norfite Corporation Cal Checks for 1/12/2011

-imperioracy observable remarks to a section of the contract o	CANGE CONTROL THE PURPLE SHOW A PROPERTY OF THE PROPERTY OF TH		SAPERIO PER	metansiusianismisusepunuseetimineassinistikk	princes consequences entitles when princes	napanda ang sa Santang pagamahan manggar galawa	april to a profesionado remando de galego e proquesto e co	·	consequences and produce and consequences of the consequences and consequences and consequences and consequences are consequences.
		Analyzer	Test	Reference	Measured		Allowable	Instrument	
Date/Time	Parameter	Scale	Leve	Value	Value	Actual Drift	Drift	Span	Resulla
1/12/2011 5:30 AM	CO ppm	Low	Zero	mqq 00,0	2.46 ppm	2.48 ppm	sõ pam	200 cpm	Unit opline: Passed
1/12/2011 5:30 AM	CO ppm	Law	Span	170,90 ppm	169.52 ppm	-1.38 ppm	žŠ ppm	260 ppm	Unit online: Passed
1/12/2011 5:30 AM	CO ppin	High	Z610	2.00 ppm	-2.80 ppm	-2.8 ppm	£90 opra	3000 ppm	Unit online; Paused
1/12/2011 5:30 AM	CO ppm	High	Span	1810.00 ppm	1973.20 ppm	-35.8 pgm	±60 ppm	3000 ppm	Unit online; Passed
1/12/2014 5:30 AM	02%	Single	Zero	800.0	%ra.0	0.01%	±0.5%	26%	Unit online: Passed
1/12/2011 5:30 AM	02%	Single	Span	18.07%	17.90%	-0.17%	20.5%	25%	Unit online; Passed

Page tat:

CeDAR Reports 1/12/2011 5/52 AM, Kille 1/Trein & Collaboration Checks

Klin 1/Train A Calibration Checks

Norlite Corporation - Cal Checks for 1/13/2011

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		Analyzer	Test	Reference	Measured		Allowable	Instrument	
Dale/Time	Parameter	Scale	Lavel	Value	∀al us	Actual Coft	Orifi	Span	Results
1/13/2011 5:00 AM	CO pps	Low	Zaro	mga (16, 6	0.12 ppm	0.12 ppm	#8 ppm	200 ppm	Unit online: Passen
1/13/2011 5:00 AM	CO ppm	Low	Span	170,£0 ppm	167.54 ppm	3.36 ppm	±5 ppm	200 ppm	Unit online: Passen
1/13/2011 5:00 AM	CO pom	Hìgh	Zoro	mqq 0 0.0	-6.00 ppm	-6 ppm	490 ppm	3000 ppm	Unit online; Passed
1/13/2011 E:00 AM	CO pow	High	Span	1919.00 pam	1901,20 ppm	-8.5 ppm	±90 gpm	3000 ppm	Unit online; Passed
1/13/2011 5:00 AM	021/2	Single	Zero	200,0	0.08%	0.06%	49.5%	25%	Unit online; Passed
1/13/2011 5:00 AM	02%	Single	Span	18,37%	18.04%	40.03%	±0.5%	25%	Unit online; Possed

CHONIA Reports 1713/2011 5/56 AM. With 17 Trent A CHABRATAN Checks

Kiln 1/Train B Calibration Checks

Norlite Corporation
Cal Checks for 1/13/2011

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		Analyzar	Test	Reference	Visasured		.Ailowable	Instrument	
Date/Time	Parameter	Scale	Lavel	Value	Value	Actual Drift	Duit	Span	Results
1/13:2011 5:30 AW	CO ppn	Low .	Zero	0,30 ppm	0,19 ppm	9,19 ppm	to com	200 ppm	Unit poline; Fassed
1/13/2011 5:30 AM	co pon	Low	Span	170.80 opm	160.91 apm	-1.80 ppm	të ppn	200 ppm	Unit unions; Passed
1/13/2011 5:30 AM	CO pum	High	Zero	0 00 ppm	-1 30 ppm	-13 ppm	AEO apm	300 0 ppm	Link online; Passed
1/13/2011 6:30 AM	CO ppm	High	Span	1910.00 aom	1901.20 ppm	-8.8 ppm	±E0 ppm	3000 ppm	Unit online; Passed
MA 05;3 1105/61/1	02%	Single	Zero	0.00%	0.05%	0.05%	±0.5%	25%	Unit online: Passed
1/13/2011 5;30 AM	02%	Single	Span	18.07%	16,06%	-0.01%	±0.5%	25%	Unit online; Passed

CEÇAR Reports 1/18/2011 5/52.AM, KOn 1/Tight B Cellbration Checks

Detailed Process Data Summaries (January 2011)

Page 1 of 6

January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

T22 N2	NAMA 2404	DT_2202	AD-2404	TT 2408	TT-2403	NDT 2404	ETKEKE	VO7 400 / EB 487	ACO 644 / E6 970
	D LO	70.7	104240	2 - 1	201	2 - 2	2000	101-0-100 OC	
	LEGI	רבפֿי	Snare	<u> </u>	Heat		riue Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdb	psi	tph	¥.	Ļ	in. H ₂ O	wet scfm	шdd	% vol.
					,		-		
1/11/2011 8:49	10.2	40.2	24.6	895	425	-0.2	33,644	33.0	15.0
1/11/2011 8:50	10.2	40.1	24.5	895	425	-0.2	33,686	33.0	15.0
1/11/2011 8:51	10.2	40.1	24.5	895	426	-0.2	33,728	32.0	15.0
1/11/2011 8:52	10.2	40.0	24.5	895	426	-0.2	33,749	33.0	15.0
1/11/2011 8:53	10.2	40.0	24.5	895	426	-0.2	33,791	33.0	15.0
1/11/2011 8:54	10.2	39.9	24.5	895	426	-0.2	33,791	33.0	15.0
1/11/2011 8:55	10.2	39.9	24.4	895	426	-0.2	33,791	33.0	15.0
1/11/2011 8:56	10.2	39.8	24.4	895	426	-0.2	33,791	33.0	15.0
1/11/2011 8:57	10.2	39.7	24.4	895	426	-0.2	33,854	33.0	15.0
1/11/2011 8:58	10.2	39.7	24.4	895	426	-0.2	33,875	33.0	15.0
1/11/2011 8:59	10.2	39.6	24.4	895	427	-0.2	33,875	33.0	15.0
1/11/2011 9:00	10.2	39.5	24.4	895	427	-0.2	33,875	33.0	15.0
1/11/2011 9:01	10.2.	39.5	24.3	895	427	-0.2	33,896	33.0	15.0
1/11/2011 9:02	10.3	39.4	24.3	895	427	-0.2	33,875	33.0	15.0
1/11/2011 9:03	10.3	39.3	24.3	895	427	-0.2	33,896	33.0	15.0
1/11/2011 9:04	10.3	39.3	24.3	895	427	-0.2	33,896	33.0	15.0
1/11/2011 9:05	10.3	39.2	24.3	895	427	-0.2	33,917	33.0	15.0
1/11/2011 9:06	10.3	39.1	24.2	895	427	-0.2	33,938	33.0	15.0
1/11/2011 9:07	10.3	39.1	24.2	895	428	-0.2	33,938	33.0	15.0
1/11/2011 9:08	10.3	39.0	24.2	895	428	-0.2	33,959	33.0	15.0
1/11/2011 9:09	10.3	39.0	24.2	895	428	-0.2	33,980	33.0	15.0
1/11/2011 9:10	10.3	38.9	24.2	895	428	-0.2	34,001	33.0 ·	15.0
1/11/2011 9:11	10.3	38.8	24.2	895	428	-0.2	34,022	33.0	15.0
	10.3	38.8	24.2	895	428	-0.2	34,022	33.0	15.0
1/11/2011 9:13	10.3	38.8	24.1	895	428	-0.2	34,022	33.0	15.0
1/11/2011 9:14	10.3	38.7	24.1	895	428	-0.2	34,022	33.0	15.0
1/11/2011 9:15	10.3	38.6	24.1	895	428	-0.2	34,022	33.0	15.0
1/11/2011 9:16	10.3	38.5	24.1	895	428	-0.2	34,022	33.0	15.0
1/11/2011 9:17	10.3	38.4	24.0	895	428	-0.2	34,001	33.0	15.0
1/11/2011 9:18	10.3	38.4	24.0	895	428	-0.2	34,001	33.0	15.0
1/11/2011 9:19	10.3	38.3	24.0	895	429	-0.2	34,022	33.0	15.0
1/11/2011 9:20	10.2	38.3	24.0	895	429	-0.2	34,043	33.0	15.0

January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

				Ш					
Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	Ä	Heat	ΕÏ	Flue Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp	Exit	Pressure	Rate	7% O ₂	Concentration
Units Date / Time	mdg	isd	tph	ዙ	Ļ	in. H ₂ O	wet sofm	шdd	% vol.
1/11/2011 9:21	10.2	38.2	24.0	895	429	-0.2	34,064	33.0	15.0
1/11/2011 9:22	10.2	38.1	24.0	895	429	-0.2	34,085	33.0	15.0
1/11/2011 9:23	10.2	38.1	24.0	895	429	-0.2	34,064	33.0	15.0
1/11/2011 9:24	10.2	38.0	23.9	895	429	-0.2	34,064	33.0	15.0
1/11/2011 9:25	10.2	37.9	23.9	895	429	-0.2	34,085	33.0	15.0
1/11/2011 9:26	10.2	37.9	23.9	895	429	-0.2	34,106	33.0	15.0
1/11/2011 9:27	10.2	37.8	23.9	895	429	-0.2	34,106	33.0	15.0
1/11/2011 9:28	10.2	37.8	23.9	895	429	-0.2	34,106	33.0	15.0
1/11/2011 9:29	10.3	37.7	23.9	895	429	-0.2	34,106	33.0	15.0
1/11/2011 9:30	10.3	37.7	23.9	895	429	-0.2	34,085	33.0	15.0
1/11/2011 9:31	10.2	37.6	23.8	895	430	-0.2	34,064	33.0	15.0
1/11/2011 9:32	10.2	37.5	23.8	895	430	-0.2	34,064	32.0	15.0
1/11/2011 9:33	10.2	37.5	23.8	968	430	-0.2	34,043	32.0	15.0
1/11/2011 9:34	10.2	37.4	23.8	895	430	-0.2	34,022	32.0	15.0
1/11/2011 9:35	10.3	37.3	23.8	895	430	-0.2	34,022	33.0	15.0
1/11/2011 9:36	10.3	37.3	23.7	895	430	-0.2	34,001	33.0	15.0
1/11/2011 9:37	10.3	37.2	23.7	895	430	-0.2	34,001	33.0	15.0
1/11/2011 9:38	10.3	37.1	23.7	895	430	-0.2	34,001	33.0	15.0
1/11/2011 9:39	10.3	37.1	23.7	895	430	-0.2	33,980	33.0	15.0
1/11/2011 9:40	10.3	37.0	23.7	895	430	-0.2	33,980	33.0	15.0
1/11/2011 9:41	10.3	37.0	23.7	895	430	-0.2	33,980	33.0	15.0
1/11/2011 9:42	10.3	36.9	23.8	895	430	-0.2	33,980	33.0	15.0
1/11/2011 9:43	10.3	36.9	23.7	- 895	430	-0.2	33,980	33.0	15.0
1/11/2011 9:44	10.3	36.8	23.7	895	430	-0.2	34,001	33.0	15.0
1/11/2011 9:45	10.3	36.8	23.8	895	430	-0.2	34,001	33.0	15.0
	10.3	36.7	23.8	895	430	-0.2	34,001	33.0	15.0
1/11/2011 9:47	10.3	36.7	23.8	968	430	-0.2	33,980	33.0	15.0
1/11/2011 9:48	10.3	36.6	23.8	968	430	-0.2	33,980	33.0	15.0
1/11/2011 9:49	10.3	36.6	23.8	968	430	-0.2	33,959	33.0	15.0
1/11/2011 9:50	10.3	36.6	23.8	968	430	-0.2	33,959	33.0	15.0
1/11/2011 9:51	10.3	36.6	23.8	968	430	-0.2	33,938	33.0	15.0
1/11/2011 9:52	10.3	36.6	23.8	968	430	-0.2	33,938	33.0	15.0

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January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50 Norlite Corporation - Cohoes, NY - MACT CPT 2010 Process and CEM Operating Parameters

		_		_		_		_			_	_				_	_			_						_								_	_	_
AO2-611 / F6-279	Oxygen	Concentration	% vol.		15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
XO7-400 / F6-187	corrected to	7% O ₂	mdd		33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
FT-5555 Flue Gas	Flow	Rate	wet scfm		33,917	33,896	33,896	33,896	33,854	33,854	33,854	33,854	33,833	33,833	33,812	33,812	33,791	33,791	33,791	33,791	33,791	33,791	33,770	33,770	33,770	33,791	33,791	33,770	33,770	33,770	33,749	33,728	33,728	33,707	33,707	33,707
DPT-2104 Kiln	Hood	Pressure	in. H ₂ 0		-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
TT-2403 Heat	Exchanger	Ĕ	۴		430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	430	431	431	431	431	431	431	431	431	431	431	431	431	431	431
TT-2105 Kiln	Back-End	Temp.	۴		968	968	968	895	895	895	895	968	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	968	895	895	895	895	895
AR-2401 Shale	Feed	Rate	tph		23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
PT-2302	Feed Line	Pressure	psi		36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5
MM-2401	Feed	Rate	шdб		10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	. 10.3	10.3	10.3	10.3	10.3	10.3
Tag No.	Parameter		Units	Date / Time	1/11/2011 9:53	1/11/2011 9:54	1/11/2011 9:55	1/11/2011 9:56	1/11/2011 9:57	1/11/2011 9:58	1/11/2011 9:59	1/11/2011 10:00	1/11/2011 10:01	1/11/2011 10:02	1/11/2011 10:03	1/11/2011 10:04	1/11/2011 10:05	1/11/2011 10:06	1/11/2011 10:07	1/11/2011 10:08	1/11/2011 10:09	1/11/2011 10:10	1/11/2011 10:11	1/11/2011 10:12		1/11/2011 10:14	1/11/2011 10:15	1/11/2011 10:16	1/11/2011 10:17	1/11/2011 10:18	1/11/2011 10:19	1/11/2011 10:20	1/11/2011 10:21		1/11/2011 10:23	1/11/2011 10:24

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January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

			_	_					_	_	_	_			_								_			_	_	_	•			_		_	_	_	_
AO2-611 / F6-279		Oxygen	Concentration	% vol.		15.0	15.0	15.0	15.0	15.0	15.0	.15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
XO7-400 / F6-187	CO Concentration	corrected to	7% O ₂	mdd		33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
FT-5555	Flue Gas	Flow	Rate	wet scfm		33,686	33,686	33,707	33,707	33,707	33,707	33,728	33,728	33,728	33,728	33,728	33,728	33,728	33,728	33,728	33,728	33,728	33,749	33,749	33,749	33,749	33,749	33,749	33,749	33,749	33,749	33,749	33,749	33,749	33,770	33,770	33,749
DPT-2104	Kiln	Hood	Pressure	in. H ₂ O		-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
TT-2403	Heat	Exchanger	EXit	ዙ		431	431	431	431	431	431	431	431	431	431	431	431	431	431	431	431	431	431	431	432	432	432	432	432	432	432	432	432	432	432	432	432
TT-2105	Kil	Back-End	Temp.	ţ.		895	895	895	895	895	895	895	895	895	. 368	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	968	895	895	895
AR-2401	Shale	Feed	Rate	tph		23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
PT-2302	LLGF	Feed Line	Pressure	psi		36.5	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.3	36.3	36.3	36.3	36.3	36.3	36.3
MM-2401	LLGF	Feed	Rate	mdg	•	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
Tag No.		Parameter		Units	Date / Time	1/11/2011 10:25	1/11/2011 10:26	1/11/2011 10:27	1/11/2011 10:28	1/11/2011 10:29	1/11/2011 10:30	1/11/2011 10:31	1/11/2011 10:32	1/11/2011 10:33		1/11/2011 10:35	1/11/2011 10:36	1/11/2011 10:37	1/11/2011 10:38	1/11/2011 10:39	1/11/2011 10:40	1/11/2011 10:41	1/11/2011 10:42	1/11/2011 10:43	1/11/2011 10:44	1/11/2011 10:45	1/11/2011 10:46	1/11/2011 10:47	1/11/2011 10:48	1/11/2011 10:49	1/11/2011 10:50	1/11/2011 10:51	1/11/2011 10:52	1/11/2011 10:53		1/11/2011 10:55	1/11/2011 10:56

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January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Tag No	MMA-2401	DT.2302	AR.2401	TT-2105	TT-2403	DDT_2104	ET.4555	XOZ.400 / ER.187	AO9_611 / E6_279
, ,	1 U	1 H	Shale	Kiln	Heat		Elile Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxvden
	Rate	Pressure	Rate	Temp.	, ixi	Pressure	Rate	7% O ₂	Concentration
Units	mdg	isd	tph	Ļ.	ţ.	in. H ₂ O	wet scfm	mdd	% vol.
⊫∥									
	10.3	36.3	23.8	895	432	-0.2	33,749	34.0	15.0
₩	10.3	36.3	23.9	895	432	-0.2	33,749	34.0	15.0
1/11/2011 10:59	10.3	36.3	23.8	895	432	-0.2	33,770	34.0	15.0
1/11/2011 11:00	10.3	36.3	23.9	895	432	-0.2	33,770	34.0	15.0
1/11/2011 11:01	10.3	36.3	23.8	895	432	-0.2	33,770	34.0	15.0
1/11/2011 11:02	10.3	36.4	23.8	895	432	-0.2	33,791	34.0	15.0
1/11/2011 11:03	10.3	36.4	23.9	895	432	-0.2	33,812	34.0	15.0
1/11/2011 11:04	10.3	36.4	23.9	895	432	-0.2	33,812	34.0	15.0
1/11/2011 11:05	10.3	36.4	23.9	895	432	-0.2	33,812	34.0	15.0
1/11/2011 11:06	10.3	36.4	23.9	895	432	-0.2	33,812	34.0	15.0
1/11/2011 11:07	10.3	36.4	23.9	895	433	-0.2	33,812	34.0	15.0
1/11/2011 11:08	10.3	36.4	23.9	895	433	-0.2	33,812	34.0	15.0
1/11/2011 11:09	10.3	36.4	23.9	895	433	-0.2	33,833	34.0	15.0
1/11/2011 11:10	10.3	36.4	23.9	895	433	-0.2	33,833	34.0	15.0
1/11/2011 11:11	10.3	36.4	23.9	895	433	-0.2	33,833	34.0	15.0
1/11/2011 11:12	10.3	36.4	23.9	895	433	-0.2	33,833	34.0	15.0
1/11/2011 11:13	10.3	36.4	23.9	895	433	-0.2	33,833	34.0	15.0
1/11/2011 11:14	10.3	36.4	23.9	895	433	-0.2	33,854	34.0	15.0
1/11/2011 11:15	10.3	36.4	23.9	895	433	-0.2	33,854	34.0	15.0
1/11/2011 11:16	10.3	36.4	23.9	895	433	-0.2	33,854	34.0	15.0
1/11/2011 11:17	10.3	36.4	23.9	895	433	-0.2	33,854	34.0	15.0
1/11/2011 11:18	10.3	36.4	23.9	895	433	-0.2	33,875	34.0	15.0
1/11/2011 11:19	10.3	36.4	23.9	895	433	-0.2	33,896	34.0	15.0
1/11/2011 11:20	10.3	36.4	23.9	895	433	-0.2	33,896	34.0	15.0
1/11/2011 11:21	10.3	36.4	23.9	895	433	-0.2	33,917	34.0	15.0
1/11/2011 11:22	10.2	36.4	23.9	895	433	-0.2	33,917	34.0	15.0
1/11/2011 11:23	10.2	36.4	23.9	895	433	-0.2	33,917	34.0	15.0
1/11/2011 11:24	10.2	36.4	23.9	895	433	-0.2	33,938	34.0	15.0
1/11/2011 11:25	10.2	36.4	23.9	895	433	-0.2	33,959	34.0	15.0
1/11/2011 11:26	10.2	36.4	23.9	895	433	-0.2	33,980	34.0	15.0
1/11/2011 11:27	10.2	36.4	23.9	895	433	-0.2	33,980	34.0	15.0
1/11/2011 11:28	10.2	36.4	23.9	895	433	-0.2	33,980	34.0	15.0

January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	Kiln	Heat	X Fii	Flue Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdb	isd	tph	ŗ.	Ļ	in. H ₂ O	wet scfm	mdd	% vol.
Date / Time									
1/11/2011 11:29	10.2	36.4	23.9	895	433	-0.2	34,001	34.0	15.0
1/11/2011 11:30	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:31	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:32	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
. 1/11/2011 11:33	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:34	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:35	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:36	10.2	36.4	24.0	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:37	10.2	36.4	24.0	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:38	10.2	36.4	23.9	895	. 433	-0.2	34,022	34.0	15.0
1/11/2011 11:39	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:40	10.2	36.4	. 23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:41	10.2	36.4	23.9	968	433	-0.2	34,043	34.0	15.0
1/11/2011 11:42	10.2	36.4	23.9	895	433	-0.2	34,043	34.0	15.0
1/11/2011 11:43	10.3	36.4	23.9	895	433	-0.2	34,064	34.0	15.0
1/11/2011 11:44	10.3	36.4	23.9	895	433	-0.2	34,064	34.0	15.0
1/11/2011 11:45	10.3	36.4	23.9	895	433	-0.2	34,064	34.0	15.0
1/11/2011 11:46	10.3	36.4	23.9	895	433	-0.2	34,064	34.0	15.0
1/11/2011 11:47	10.3	36.4	23.9	968	433	-0.2	34,064	34.0	15.0
1/11/2011 11:48	10.3	36.4	23.9	895	433	-0.2	34,064	34.0	15.0
1/11/2011 11:49	10.3	36.4	23.9	895	433	-0.2	34,085	34.0	15.0
1/11/2011 11:50	10.3	36.4	23.9	895	433	-0.5	34,085	34.0	15.0
AVERAGE	10.3	37.1	23.9	895	431	-0.2	33,884	33.3	15.0
MINIMUM	10.2	36.3	23.7	895	425	-0.2	33,644	32.0	15.0
MAXIMUM	10.3	40.2	24.6	968	433	-0.2	34,106	34.0	15.0

January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

			. 11	. 11					
Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	Kiln	Heat	돌	Flue Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% 02	Concentration
Units	mdb	psí	tph	Ļ	ř.	in. H ₂ O	wet scfm	mdd	% vol.
= 11									
- -	10.2	37.7	23.8	894	435	-0.2	34,253	33.0	15.0
\leftarrow	10.2	37.7	23.8	894	435	-0.3	34,253	33.0	15.0
1/11/2011 12:37	10.2	37.8	23.8	894	435	-0.2	34,274	33.0	15.0
1/11/2011 12:38	10.2	37.8	23.8	894	435	-0.2	34,295	33.0	15.0
1/11/2011 12:39	10.2	37.8	23.8	894	435	-0.2	34,316	33.0	15.0
1/11/2011 12:40	10.2	37.9	23.8	894	435	-0.2	34,316	33.0	15.0
1/11/2011 12:41	10.2	37.9	23.8	894	435	-0.2	34,337	33.0	15.0
1/11/2011 12:42	10.2	37.9	23.8	894	435	-0.2	34,337	33.0	15.0
1/11/2011 12:43	10.2	37.9	23.8	894	435	-0.2	34,337	33.0	15.0
1/11/2011 12:44	10.2	38.0	23.8	894	435	-0.2	34,358	33.0	15.0
1/11/2011 12:45	10.2	38.0	23.8	894	435	-0.2	34,379	33.0	15.0
	10.2	38.1	23.8	894	435	-0.2	34,400	33.0	15.0
1/11/2011 12:47	10.2	38.1	23.8	894	435	-0.2	34,421	33.0	15.0
	10.2	38.1	23.8	894	435	-0.3	34,421	33.0	15.0
	10.2	38.2	23.8	894	435	-0.2	34,442	33.0	15.0
1/11/2011 12:50	10.2	38.2	23.8	894	436	-0.3	34,463	33.0	15.0
1/11/2011 12:51	10.2	38.3	23.8	894	436	-0.2	34,484	33.0	15.0
1/11/2011 12:52	10.2	38.3	23.8	894	436	-0.2	34,484	33.0	15.0
1/11/2011 12:53	10.2	38.3	23.8	894	436	-0.3	34,484	33.0	15.0
1/11/2011 12:54	10.2	38.4	23.8	894	436	-0.2	34,505	33.0	15.0
1/11/2011 12:55	·10.2	38.4	23.8	894	436	-0.2	34,526	33.0	15.0
	10.2	38.5	23.8	894	436	-0.2	34,547	33.0	15.0
1/11/2011 12:57	10.2	38.5	23.8	894	436	-0.2	34,568	33.0	15.0
	10.2	38.5	23.8	894	436	-0.2	34,589	33.0	15.0
1/11/2011 12:59	10.2	38.6	23.8	894	436	-0.2	34,631	33.0	15.0
1/11/2011 13:00	10.2	38.6	23.8	894	436	-0.2	34,652	33.0	15.0
1/11/2011 13:01	10.2	38.6	23.8	894	436	-0.2	34,694	33.0	15.0
1/11/2011 13:02	10.2	38.7	23.8	894	436	-0.2	34,694	33.0	15.0
1/11/2011 13:03	10.2	38.7	23.8	894	436	-0.2	34,715	33.0	15.0
1/11/2011 13:04	10.2	38.7	23.8	895	437	-0.2	34,736	33.0	15.0
1/11/2011 13:05	10.3	38.7	23.8	895	437	-0.2	34,757	33.0	15.0
1/11/2011 13:06	10.3	38.7	23.8	895	437	-0.2	34,778	33.0	15.0

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January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

ON SOF	MANA DAGA	COSC TO	. 11	17.040	THE CONTRACT OF THE PROPERTY O	PDT 2404	7777	XO7 400 (TO 407	A O O O O O O O
- agg 140.	10+2-Iviivi	70-1-	1042-401	5012-1-	11-2403	12.17.	r 1-5555	700 4007 ro-107	MOZ-011/F0-7/8
ſ	י ברקו	י רבי	Shale	[2]	near r	 	riue Gas	CO Concentration	(
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units Date / Time	mdg	jsd	tbh	Ļ	<u></u>	in. H ₂ O	wet scfm	шdd	% vol.
1/11/2011 13:07	10.3	38.7	23.8	895	437	-0.2	34 778	33.0	15.0
	10.3	38.7	23.8	895	437	-0.2	34,799	33.0	15.0
1/11/2011 13:09	10.3	38.7	23.8	895	437	-0.2	34,799	33.0	15.0
1/11/2011 13:10	10.3	38.7	23.8	895	437	-0.2	34,799	33.0	15.0
1/11/2011 13:11	10.3	38.7	23.8	895	437	-0.2	34,799	33.0	15.0
1/11/2011 13:12	10.3	38.7	23.7	895	437	-0.2	34,799	33.0	15.0
1/11/2011 13:13	10.3	38.7	23.7	895	437	-0.2	34,799	33.0	15.0
1/11/2011 13:14	10.3	38.7	23.7	895	437	-0.2	34,820	33.0	15.0
1/11/2011 13:15	10.3	38.7	23.7	895	437	-0.2	34,820	33.0	15.0
1/11/2011 13:16	10.3	38.7	23.7	895	437	-0.2	34,841	33.0	15.0
1/11/2011 13:17	10.2	38.7	23.7	895	438	-0.2	34,841	33.0	15.0
1/11/2011 13:18	10.2	38.7	23.7	895	438	-0.2	34,883	33.0	15.0
1/11/2011 13:19	10.2	38.7	23.7	895	438	-0.2	34,904	33.0	15.0
1/11/2011 13:20	10.2	38.7	23.8	895	438	-0.2	34,904	33.0	15.0
1/11/2011 13:21	10.2	38.7	23.8	895	438	-0.2	34,925	33.0	15.0
1/11/2011 13:22	10.2	38.7	23.8	895	438	-0.2	34,946	33.0	15.0
1/11/2011 13:23	10.2	38.7	23.8	895	438	-0.2	34,946	33.0	15.0
1/11/2011 13:24	10.2	38.7	23.8	895	438	-0.2	34,967	33.0	15.0
	10.2	38.7	23.8	895	438	-0.2	34,967	33.0	15.0
1/11/2011 13:26	10.2	38.7	23.8	895	438	-0.2	34,988	33.0	15.0
1/11/2011 13:27	10.2	38.7	23.8	895	438	-0.3	34,988	33.0	15.0
1/11/2011 13:28	10.2	38.7	23.8	895	438	-0.2	34,988	33.0	15.0
1/11/2011 13:29	10.2	38.7	23.7	895	438	-0.2	34,988	33.0	15.0
1/11/2011 13:30	10.2	38.7	23.7	895	438	-0.2	35,009	33.0	15.0
	10.2	38.8	23.7	895	438	-0.2	35,009	33.0	15.0
	10.2	38.8	23.7	895	438	-0.2	35,030	33.0	15.0
	10.2	38.9	23.7	895	(438	-0.2	35,030	33.0	15.0
1/11/2011 13:34	10.2	38.9	23.7	895	438	-0.2	35,030	33.0	15.0
	10.2	39.0	23.7	895	438	-0.2	35,009	33.0	15.0
	10.2	39.0	23.8	968	438	-0.2	35,009	33.0	15.0
1/11/2011 13:37	10.2	39.1	23.8	968	439	-0.2	35,009	33.0	15.0
1/11/2011 13:38	10.2	39.1	23.7	968	439	-0.2	34,988	33.0	15.0

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January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Tag No	MM-2401	PT-2302	AR-2401 TT-2105	Ш.	TT-2403	DPT-2104 FT-	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
)	LLGF	LLGF	Shale	ξ.	Heat	출	Flue Gas	CO Concentration	
Parameter	. Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdb	isd	tph	Ϋ́	¥ .	in. H ₂ O	wet scfm	шdd	% vol.
= ¬	00,	0 00	100	000	001		. 000		0 1.
	10.2	39.2	23.7	968	439	-0.2	34,988	33.0	15.0
	10.2	39.2	23.7	895	439	-0.2	34,967	33.0	15.0
←]	10.2	39.3	23.7	895	439	-0.2	34,967	33.0	15.0
	10.2	39.3	23.7	895	439	-0.2	34,967	33.0	15.0
	10.2	39.4	23.7	895	439	-0.2	34,946	33.0	15.0
1/11/2011 13:44	10.2	39.4	23.7	. 895	439	-0.2	34,946	33.0	15.0
1/11/2011 13:45	10.2	39.5	23.7	895	439	-0.2	34,946	33.0	15.0
1/11/2011 13:46	10.2	39.5	23.7	895	439	-0.3	34,925	33.0	15.0
1/11/2011 13:47	10.2	39.6	23.7	895	439	-0.2	34,925	33.0	15.0
1/11/2011 13:48	10.3	39.6	23.7	895	439	-0.2	34,925	33.0	15.0
1/11/2011 13:49	10.3	39.7	23.7	895	439	-0.2	34,925	33.0	15.0
1/11/2011 13:50	10.3	39.7	23.7	895	439	-0.2	34,925	33.0	15.0
1/11/2011 13:51	10.3	39.8	23.7	895	439	-0.2	34,904	33.0	15.0
	10.3	39.8	23.7	895	439	-0.2	34,904	33.0	15.0
	10.3	39.9	23.7	895	439	-0.2	34,904	33.0	15.0
1/11/2011 13:54	10.3	39.9	23.7	895	439	-0.2	34,883	33.0	15.0
	10.3	40.0	23.7	895	439	-0.2	34,883	33.0	15.0
1/11/2011 13:56	10.3	40.0	23.7	895	439	-0.2	34,862	33.0	. 15.0
	10.3	40.0	23.7	968	439	-0.2	34,862	33.0	15.0
1/11/2011 13:58	10.3	40.1	23.7	968	439	-0.2	34,862	33.0	15.0
1/11/2011 13:59	10.3	40.1	23.7	968	439	-0.2	34,841	33.0	15.0
1 1	10.3	40.2	23.7	968	439	-0.2	34,820	33.0	15.0
	10.3	40.2	23.7	895	439	-0.2	34,799	33.0	15.0
1/11/2011 14:02	10.3	40.3	23.7	895	439	-0.2	34,799	33.0	15.0
1/11/2011 14:03	10.3	40.3	23.7	895	439	-0.2	34,778	33.0	15.0
1/11/2011 14:04	10.3	40.4	23.7	895	439	-0.2	34,778	33.0.	15.0
1/11/2011 14:05	10.2	40.4	23.7	895	439	-0.2	34,778	33.0	15.0
1/11/2011 14:06	10.2	40.5	23.7	.895	439	-0.3	34,757	33.0	15.0
1/11/2011 14:07	10.2	40.5	23.7	895	439	-0.2	34,757	33.0	15.0
	10.2	40.6	23.7	895	439	-0.3	34,757	33.0	15.0
	10.2	40.6	23.7	895	439	-0.2	34,757	33.0	15.0
1/11/2011 14:10	10.2	40.7	23.7	895	439	-0.5	34,736	33.0	15.0

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XO7-400 / F6-187 AO2-611 / F6-279	ion	corrected to Oxygen	7% O ₂ Concentration	ppm % vol.		33.0 15.0	33.0 15.0	33.0 15.0	33.0 15.0	33.0 15.0	33.0 15.0	33.0 15.0		33.0 15.0	33.0 15.0	34.0 15.0	34.0 15.0	34.0 15.0		34.0 15.0	34.0 .15.0	34.0 15.0	34.0 15.0		34.0 15.0					34.0 15.0	34.0 15.0	34.0 15.0	340		
Flue Gas CO Col				wet scfm			34,778	34,820	34,820	34,841	34,841			34,841		34,841		34,862							34,946	34,946				35,030	35,051	35,051	35,072	35,093	35,114 34.0
Ϋ́ E		Hood	Pressure	in. H ₂ O	-0.3	-0.2	-0.3	-0.2	-0.3	-0.2	-0.2	-0.3	-0.2	-0.3	-0.2	-0.2	-0.3	-0.2	-0.3	-0.3	-0.2	-0.5	-0.2	-0.3	-0.2	-0.3	-0.2	-0.2	-0.3	-0.2	-0.2	-0.2	-0.2	-0.3	C
	Heat	Exchanger	Exit	<u>ዙ</u>	439	439	439	439	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	440	439	439	439	439	439	439	439	439	439	750
	Kiin	Back-End	Temp.	Ļ	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	400
	Shale	Feed	Rate	tp.	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.7	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	22.6
	LLGF	Feed Line	Pressure	psi	40.7	40.8	40.8	40.9	40.9	40.9	41.0	41.0	41.1	41.1	412	41.2	41.3	41.3	41.4	41.4	41.5	41.5	41.6	41.6	41.6	41.6	(41.6	41.6	41.6	41.6	41.5	41.5	41.5	41.5	115
	LLGF	Feed	Rate	mdb	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	40,4
ag No.		Parameter		Units	1/11/2011 14:11	1/11/2011 14:12	1/11/2011 14:13	1/11/2011 14:14	1/11/2011 14:15	1/11/2011 14:16	1/11/2011 14:17	1/11/2011 14:18	1/11/2011 14:19	1/11/2011 14:20	1/11/2011 14:21	1/11/2011 14:22	1/11/2011 14:23	1/11/2011 14:24	1/11/2011 14:25	1/11/2011 14:26	1/11/2011 14:27	1/11/2011 14:28	1/11/2011 14:29	1/11/2011 14:30	1/11/2011 14:31	1/11/2011 14:32	1/11/2011 14:33	1/11/2011 14:34	1/11/2011 14:35	1/11/2011 14:36	1/11/2011 14:37	1/11/2011 14:38	1/11/2011 14:39	1/11/2011 14:40	1/14/2011 11/11

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Tow No	LANA 2404	DT.2302	AD: 2404	TT 240E	77 2403	100 TOO	CT SEEE	VO7 400 / E8 407	ACO 644 / E6 970
)))	- L	10E	Shale	Kiln	T 1 2 2 2 2	- X	Flip Gas	CO Concentration	617-017-10-504
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxvgen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdg	psi	tah	ĥ	Ļ	in. H ₂ 0	wet scfm	. wdd	% vol.
1/11/2011 14:43	10.3	41.5	23.7	895	439	-0.2	35,135	34.0	15.0
	10.3	41.5	23.7	895	439	-0.2	35,156	34.0	15.0
1/11/2011 14:45	10.3	41.5	23.7	895	439	-0.3	35,177	34.0	15.0
1/11/2011 14:46	10.3	41.6	23.7	. 982	439	-0.2	35,198	34.0	15.0
1/11/2011 14:47	10.3	41.5	23.7	895	439	-0.3	35,198	34.0	15.0
1/11/2011 14:48	10.3	41.5	23.7	895	439	-0.2	35,198	34.0	15.0
1/11/2011 14:49	10.3	41.5	23.7	895	438	-0.2	35,219	34.0	15.0
1/11/2011 14:50	10.3	41.6	23.7	895	438	-0.2	35,219	34.0	15.0
1/11/2011 14:51	10.3	41.6	23.7	895	438	-0.2	35,240	34.0	15.0
1/11/2011 14:52	10.3	41.6	23.7	895	438	-0.3	35,261	34.0	15.0
1/11/2011 14:53	10.3	41.6	23.7	895	438	-0.2	35,282	34.0	15.0
1/11/2011 14:54	10.3	41.6	23.7	895	438	-0.3	35,303	34.0	15.0
1/11/2011 14:55	10.3	41.5	23.7	895	438	-0.3	35,324	34.0	15.0
1/11/2011 14:56	10.3	41.5	23.7	895	438	-0.2	35,345	34.0	15.0
1/11/2011 14:57	10.3	41.5	23.7	895	438	-0.3	35,345	34.0	15.0
1/11/2011 14:58	10.3	41.5	23.7	895	438	-0.2	35,366	34.0	15.0
1/11/2011 14:59	10.2	41.5	23.7	895	438	-0.3	35,408	34.0	15.0
1/11/2011 15:00	10.2	41.5	23.7	895	437	-0.3	35,450	34.0	15.0
1/11/2011 15:01	10.2	41.5	23.7	895	437	-0.3	35,492	34.0	15.0
1/11/2011 15:02	10.2	41.5	23.7	895	437	-0.2	35,513	34.0	15.0
1/11/2011 15:03	10.3	41.5	23.7	895	437	-0.2	35,534	34.0	15.0
1/11/2011 15:04	10.3	41.5	23.7	895	437	-0.2	35,555	34.0	15.0
1/11/2011 15:05	10.3	41.5	23.7	895	437	-0.2	35,597	34.0	15.0
	10.3	41.5	23.7	895	437	-0.2	35,597	34.0	15.0
	10.3	41.5	23.7	895	437	-0.2	35,660	34.0	15.0
1/11/2011 15:08	10.3	41.5	23.7	895	437	-0.2	35,702	34.0	. 15.0
1/11/2011 15:09	10.3	41.5	23.7	895	437	-0.2	35,723	34.0	15.0
1/11/2011 15:10	10.3	41.5	23.7	895	437	-0.2	35,744	34.0	15.0
1/11/2011 15:11	10.3	41.5	23.7	895	437	-0.2	35,744	34.0	15.0
1/11/2011 15:12	10.3	41.5	23.7	895	437	-0.2	35,744	34.0	15.0
	10.3	41.5	23.7	895	437	-0.2	35,765	34.0	15.0
1/11/2011 15:14	10.3	41.5	23.7	895	437	-0.2	35,744	34.0	15.0

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LLGF LLGF Shale Feed Line Line Line Line Line Line Line Line	Tag No. Miv	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
Feed Feed Line Feed Rate Pressure Rate gpm psi tph 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.4 23.7 10.3 41.4 23.7 10.3 41.4 23.7 10.3 41.4 23.7 10.2 41.1 23.7 10.2 41.1 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 <td></td> <td>LGF</td> <td>LLGF</td> <td>Shale</td> <td>Ä</td> <td>Heat</td> <td>ΑïF</td> <td>Flue Gas</td> <td>CO Concentration</td> <td></td>		LGF	LLGF	Shale	Ä	Heat	ΑïF	Flue Gas	CO Concentration	
Rate Pressure Rate gpm psi tph 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.4 23.7 10.3 41.3 23.7 10.3 41.3 23.7 10.2 41.1 23.7 10.2 40.9 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8		paa	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
9pm psi tph 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.4 23.7 10.3 41.3 23.7 10.2 41.0 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.7 23.8		Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% 02	Concentration
10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.4 23.7 10.3 41.3 23.7 10.3 41.3 23.7 10.2 41.1 23.7 10.2 40.9 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.1 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8		mdg	isd	ф	Ļ.	Ļ	in. H ₂ O	wet scfm	mdd	% vol.
10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.4 23.7 10.3 41.3 23.7 10.2 41.1 23.7 10.2 41.1 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8	1me	6	44	73.7	300	136	ç	25 744	24.0	45.0
10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.3 23.7 10.3 41.3 23.7 10.2 41.1 23.7 10.2 41.1 23.7 10.3 40.9 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.1 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8	13.13	S. 0	C.14	1.62	CRO	450	-0.k	55,744	0.4.0	0.61
10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.4 23.7 10.3 41.3 23.7 10.3 41.3 23.7 10.2 41.1 23.7 10.2 41.1 23.7 10.3 40.9 23.7 10.3 40.9 23.7 10.3 40.9 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8	15:16	0.3	41.5	23.7	895	436	-0.2	35,744	34.0	15.0
10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.4 23.7 10.3 41.3 23.7 10.2 41.1 23.7 10.2 41.1 23.7 10.2 41.1 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8	15:17	0.3	41.5	23.7	895	436	-0.2	35,765	34.0	15.0
10.3 41.5 23.7 10.3 41.5 23.7 10.3 41.4 23.7 10.3 41.3 23.7 10.3 41.2 23.7 10.2 41.1 23.7 10.2 41.1 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.1 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8	15:18	0.3	41.5	23.7	895	436	-0.2	35,765	34.0	15.0
10.3 41.5 23.7 10.3 41.4 23.7 10.3 41.4 23.7 10.3 41.3 23.7 10.2 41.1 23.7 10.2 41.1 23.7 10.2 41.0 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.1 23.8 10.2 40.1 23.8	15:19	0.3	41.5	23.7	895	436	-0.2	35,765	34.0	15.0
10.3 41.4 23.7 10.3 41.3 23.7 10.3 41.3 23.7 10.2 41.1 23.7 10.2 41.1 23.7 10.2 40.9 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.1 23.8 10.2 40.1 23.8	15:20	0.3	41.5	23.7	895	436	-0.2	35,765	34.0	15.0
10.3 41.3 23.7 10.3 41.3 23.7 10.2 41.1 23.7 10.2 41.1 23.7 10.2 41.0 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.1 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8	15:21	0.3	41.4	23.7	895	436	-0.2	35,765	34.0	15.0
10.3 41.3 23.7 10.3 41.2 23.7 10.2 41.1 23.7 10.2 41.0 23.7 10.3 40.9 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8		0.3	41.3	23.7	895	436	-0.2	35,765	35.0	15.0
10.3 41.2 23.7 10.2 41.1 23.7 10.2 41.1 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.3 40.8 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8		0.3	41.3	23.7	895	436	-0.2	35,807	35.0	15.0
10.2 41.1 23.7 10.2 41.1 23.7 10.2 41.0 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8		0.3	41.2	23.7	895	436	-0.2	35,807	35.0	15.0
10.2 41.1 23.7 10.2 41.0 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.2 40.7 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8	15:25	0.5	41.1	23.7	895	436	-0.2	35,828	35.0	15.0
10.2 41.0 23.7 10.3 40.9 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.2 40.7 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.1 23.7 10.2 40.1 23.8 10.2 40.1 23.8	15:26	0.2	41.1	23.7	895	436	-0.2	35,849	35.0	15.0
10.3 40.9 23.7 10.3 40.9 23.7 10.3 40.8 23.7 10.2 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8	15:27	0.2	41.0	23.7	895	436	-0.2	35,849	35.0	15.0
10.3 40.9 23.7 10.3 40.8 23.7 10.3 40.8 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.5 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8		0.3	40.9	23.7	895	436	-0.2	35,849	35.0	15.0
10.3 40.8 23.7 10.3 40.8 23.7 10.2 40.7 23.7 10.2 40.6 23.7 10.2 40.5 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.1 23.6 10.2 40.1 23.6		0.3	40.9	23.7	895	436	-0.2	35,849	35.0	15.0
10.3 40.8 23.7 10.2 40.7 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.1 23.6 10.2 40.1 23.6		0.3	40.8	23.7	895	436	-0.2	35,870	35.0	15.0
10.2 40.7 23.7 10.2 40.6 23.7 10.2 40.6 23.7 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.4 23.8 10.2 40.1 23.7 10.2 40.1 23.7		0.3	40.8	23.7	895	436	-0.2	35,870	35.0	15.0
15:33 10.2 40.6 23.7 15:34 10.2 40.6 23.7 15:35 10.2 40.4 23.8 15:37 10.2 40.4 23.8 15:37 10.2 40.4 23.8 3E 10.2 40.1 23.7 3F 10.2 37.7 23.6		0.2	40.7	23.7	895	436	-0.2	35,891	35.0	15.0
15:34 10.2 40.6 23.7 15:35 10.2 40.5 23.7 15:36 10.2 40.4 23.8 15:37 10.2 40.4 23.8 3E 10.2 40.1 23.7 3E 10.2 37.7 23.6 10.2 37.7 23.6		0.2	40.6	23.7	895	436	-0.2	35,891	35.0	15.0
15:35 10.2 40.5 23.7 15:36 10.2 40.4 23.8 15:37 10.2 40.4 23.8 3E 10.2 40.1 23.7		0.2	40.6	23.7	895	436	-0.2	35,912	35.0	15.0
15:36 10.2 40.4 23.8 15:37 10.2 40.4 23.8 3E 10.2 40.1 23.7	15:35	0.5	40.5	23.7	895	436	-0.2	35,912	35.0	15.0
15:37 10.2 40.4 23.8 GE 10.2 40.1 23.7 IM 10.2 37.7 23.6	15:36	0.5	40.4	23.8	895	436	-0.2	35,912	35.0	15.0
10.2 40.1 23.7	15:37	0.2	40.4	23.8	895	437	-0.2	35,912	35.0	15.0
10.2 40.1 23.7										
10.2 37.7 23.6		10.2	40.1	23.7	895	438	-0.2	35,038	33.5	15.0
0:07	MINIMUM	10.2	37.7	23.6	894	435	-0.3	34,253	33.0	15.0
10.3 41.6 23.8		10.3	41.6	23.8	968	440	-0.2	35,912	35.0	15.0

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January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04 Norlite Corporation - Cohoes, NY - MACT CPT 2010 Process and CEM Operating Parameters

Parameter Feed Rate Units gpm Parameter Feed Rate ATTIME ATTIVIZED BY	Pressure psl psl 38.1 38.1 37.9 37.7 37.7 37.6 37.6 37.6 37.4 37.4 37.4	Shale Feed Rate tph tph 22.2 22.2 22.2 22.2 22.2 22.2 22.2 22	Back-End Temp. °F 903 902 902	Heat Exchanger Exit	Kiin Hood Pressure	Flue Gas Flow Rate	CO Concentration corrected to 7% O ₂	Oxygen
	Pressure psi psi 38.2 38.2 38.1 37.9 37.9 37.7 37.6 37.5 37.5 37.4 37.4	Feed Rate tph	Pack-End Temp. °F 903 902 902 901	Exchanger Exit	Hood	Flow	corrected to 7% O ₂	Oxygen
	Pressure psi 38.2 38.2 38.1 37.9 37.9 37.7 37.6 37.5 37.5 37.4 37.4 37.4	Pate tph	Pemp. %F 903 902 902 901	Exit	Pressure	A ₂ to	7% O ₂	
	psi 38.2 38.1 37.9 37.9 37.5 37.5 37.5 37.5 37.5 37.5 37.5 37.5	22.2 22.2 22.2 22.2 22.2 22.2 22.2 22.	903 902 902 901	L		י בי		Concentration
	38.2 38.1 37.9 37.9 37.7 37.6 37.6 37.5 37.5 37.4 37.4 37.5	22.2 22.2 22.2 22.2 22.2 22.2 22.2 22.	903 902 902 901	<u>.</u>	in. H ₂ O	wet scfm	mdd	% vol.
	38.2 38.1 37.9 37.9 37.7 37.6 37.6 37.5 37.5 37.5 37.5 37.5 37.4 37.5	22.2 22.2 22.2 22.2 22.2 22.2 22.2 22.	903 902 902 901					
	38.1 37.9 37.9 37.7 37.6 37.6 37.5 37.5 37.5 37.5 37.4 37.4	22.2 22.2 22.2 22.2 22.2 22.2 22.3 22.3	902 902 901	429	-0.2	35,786	38.0	16.0
	37.9 37.7 37.7 37.6 37.6 37.5 37.5 37.4 37.4	22.2 22.2 22.2 22.2 22.2 22.3 22.3 22.3	902	429	-0.2	35,723	38.0	16.0
	37.9 37.7 37.6 37.6 37.5 37.5 37.4 37.4 37.4	22.2 22.2 22.2 22.2 22.2 22.3 22.3 22.3	901	429	-0.2	35,681	38.0	16.0
	37.7 37.6 37.6 37.5 37.5 37.4 37.4 37.4	22.2 22.2 22.2 22.2 22.2 22.3 22.3 22.3		429	-0.2	35,618	38.0	16.0
	37.7 37.6 37.5 37.5 37.4 37.4 37.4	22.2 22.2 22.2 22.2 22.3 22.3 22.3 22.3	901	429	-0.2	35,555	38.0	16.0
	37.6 37.5 37.5 37.4 37.4 37.4	22.2 22.2 22.3 22.3 22.3 22.3 22.3	006	429	-0.2	35,492	38.0	16.0
	37.6 37.5 37.5 37.4 37.4 37.4	22.2 22.3 22.3 22.3 22.3 22.3	899	429	-0.2	35,408	38.0	16.0
	37.5 37.5 37.4 37.4 37.4 37.3	22.3 22.3 22.3 22.3 22.3	899	429	-0.2	35,282	38.0	16.0
	37.5 37.4 37.4 37.4	22.3 22.3 22.3 22.3	899	429	-0.2	35,135	38.0	16.0
	37.4 37.4 37.4 37.3	22.3	868	429	-0.2	34,988	38.0	16.0
	37.4 37.4 37.3	22.3	898	429	-0.2	34,862	38.0	16.0
	37.4	22.3	868	429	-0.2	34,778	38.0	16.0
	37.3		897	429	-0.2	34,631	38.0	16.0
		22.3	897	429	-0.2	34,505	38.0	16.0
	37.3	22.3	897	429	-0.2	34,358	38.0	16.0
	37.2	22.3	897	429	-0.2	34,274	38.0	16.0
	37.2	22.3	897	429	-0.2	34,148	38.0	16.0
	37.1	22.3	968	429	-0.2	34,064	38.0	16.0
	37.1	22.3	968	429	-0.2	34,001	38.0	16.0
	37.0	22.4	968	429	-0.2	33,917	38.0	16.0
	37.0	22.4	896	429	-0.2	33,854	38.0	16.0
9:24 10.0	36.9	22.4	968	429	-0.2	33,791	38.0	16.0
9:25 10.0	36.9	22.4	968	429	-0.2	33,728	38.0	16.0
9:26 10.0	36.9	22.4	895	429	-0.2	33,707	38.0	16.0
9:27 10.0	36.8	22.4	895	429	-0.2	33,686	38.0	16.0
1/12/2011 9:28 10.0	36.8	22.4	895	429	-0.2	33,665	38.0	16.0
1/12/2011 9:29 10.0	36.7	22.4	895	429	-0.2	33,623	38.0	16.0
9:30 10.0	36.7	22.4	895	429	-0.2	33,602	38.0	16.0
1/12/2011 9:31 10.0	36.6	22.4	895	430	-0.2	33,581	38.0	. 16.0
9:32 10.1	36.6	22.4	895	430	-0.2	33,560	38.0	16.0
	36.5	22.4	895	430	-0.2	33,560	37.0	16.0
	36.5	22.4	895	430	-0.2	33,518	37.0	16.0

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January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04 Norlite Corporation - Cohoes, NY - MACT CPT 2010

Process and CEM Operating Parameters

					7		<u> </u>												-							Ī	<u> </u>	ļ					_	`			
AO2-611 / F6-279		Oxygen	Concentration	% vol.		16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
XO7-400 / F6-187	CO Concentration	corrected to	7% O ₂	mdd	-	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	. 36.0	36.0	36.0	36.0	37.0	37.0
FT-5555	Flue Gas	Flow	Rate	wet scfm		33,518	33,518	33,539	33,539	33,497	33,518	33,518	33,539	33,518	33,539	33,539	33,518	33,518	33,581	33,707	33,749	33,770	33,770	34,253	34,253	34,316	34,337	34,337	34,337	34,316	34,316	34,337	34,358	34,337	34,337	34,337	34,358
DPT-2104	Ķ	Hood	Pressure	in. H ₂ O		-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
TT-2403	Heat	Exchanger	Exit	۴		430	430	430	430	430	430	431	431	431	431	431	431	431	431	431	431	431	431	431	431	432	432	432	432	432	432	432	432	432	432	432	432
TT-2105	Ķ	Back-End	Temp.	Ļ		895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895
AR-2401	Shale	Feed	Rate	tph		22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4
PT-2302	LLGF	Feed Line	Pressure	isd		36.5	36.4	36.4	36.3	36.3	36.2	36.2	36.2	36.1	36.1	36.0	36.0	35.9	35.9	35.9	35.8	35.8	35.8	35.8	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7	35.7
MM-2401	LLGF	Feed	Rate	mdg		10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	-10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
Tag No.	-	Parameter		Units	Date / Time	1/12/2011 9:35	1/12/2011 9:36	1/12/2011 9:37	1/12/2011 9:38	1/12/2011 9:39	1/12/2011 9:40	1/12/2011 9:41	1/12/2011 9:42	1/12/2011 9:43	1/12/2011 9:44	1/12/2011 9:45	1/12/2011 9:46	1/12/2011 9:47	1/12/2011 9:48	1/12/2011 9:49	1/12/2011 9:50	1/12/2011 9:51	1/12/2011 9:52	1/12/2011 9:53	1/12/2011 9:54	1/12/2011 9:55	1/12/2011 9:56	1/12/2011 9:57	1/12/2011 9:58	1/12/2011 9:59	1/12/2011 10:00	1/12/2011 10:01	1/12/2011 10:02	1/12/2011 10:03	1/12/2011 10:04	1/12/2011 10:05	1/12/2011 10:06

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January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

oN cel	MM-2401	PT-2302	AR-2401	TT-2405	TT-2403	DPT-2404	FT-5555	XO7-400 / EB-187	AO2-611 / E6-279
)	LLGF	LLGF	Shale	Kiin	Heat	. E	Flue Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
٠	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units Date / Time	mdb	psi	tbh	ĥ	îr.	in. H ₂ O	wet scfm	udd	% vol.
1/12/2011 10:07	10.2	35.7	22.4	895	432	-0.2	34,379	37.0	16.0
1/12/2011 10:08	10.2	35.7	22.4	895	432	-0.2	34,379	37.0	16.0
1/12/2011 10:09	10.2	35.7	22.4	895	432	-0.2	34,379	37.0	16.0
1/12/2011 10:10	10.2	35.7	22.4	895	432	-0.2	34,358	37.0	16.0
	10.2	35.6	22.4	895	432	-0.2	34,379	37.0	16.0
1/12/2011 10:12	10.2	35.6	22.4	895	432	-0.2	34,379	37.0	16.0
1/12/2011 10:13	10.2	35.6	22.4	895	432	-0.2	34,400	37.0	16.0
1/12/2011 10:14	10.2	35.6	22.4	895	432	-0.2	34,316	37.0	16.0
1/12/2011 10:15	10.2	35.6	22.4	895	432	-0.2	34,295	37.0	16.0
1/12/2011 10:16	10.2	35.6	22.4	895	432	-0.2	34,295	37.0	16.0
1/12/2011 10:17	10.2	35.6	22.4	895	432	-0.2	34,295	36.0	16.0
1/12/2011 10:18	10.2	35.6	22.4	895	.432	-0.2	34,274	36.0	16.0
1/12/2011 10:19	10.2	35.6	22.4	895	432	-0.2	34,274	36.0	16.0
	10.2	35.6	22.4	895	432	-0.2	34,253	36.0	, 16.0
	10.2	35.6	22.4	895	432	-0.2	34,232	36.0	16.0
	10.2	35.6	22.4	895	432	-0.2	34,232	36.0	16.0
1/12/2011 10:23	10.2	35.5	22.4	895	432	-0.2	34,253	36.0	16.0
1/12/2011 10:24	10.2	35.5	22.4	895	432	-0.2	34,253	36.0	16.0
1/12/2011 10:25	10.2	35.5	22.4	895	432	-0.2	34,253	36.0	16.0
1/12/2011 10:26	10.2	35.5	22.4	895	432	-0.2	34,253	37.0	16.0
	10.2	35.5	22.4	895	432	-0.2	34,253	37.0	16.0
1/12/2011 10:28	10.2	35.5	22.4	895	.432	-0.2	34,274	37.0	16.0
	10.2	35.5	22.4	895	432	-0.2	34,274	37.0	16.0
	10.2	35.5	22.5	895	432	-0.2	34,295	37.0	16.0
1/12/2011 10:31	10.2	35.5	22.4	895	432	-0.2	34,295	37.0	16.0
	10.2	35.5	22.5	895	432	-0.2	34,274	37.0	16.0
	.10.2	35.5	22.5	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:34	10.2	35.5	22.4	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:35	10.2	35.5	22.4	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:36	10.2	35.5	22.4	895	432	-0.2	34,295	37.0	16.0
1/12/2011 10:37	10.2	35.4	22.4	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:38	10.2	35.4	22.4	892	432	-0.5	34,274	37.0	16.0

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January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

	_	_	_	_	_		_															_	_	_	_	_	_		_	_							_
AO2-611 / F6-279		Oxygen	Concentration	% vol.		16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	. 16.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
XO7-400 / F6-187	CO Concentration	corrected to	7% O ₂	шdd		37.0	37.0	37.0	37.0	37.0	37.0	36.0	0.98	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
FT-5555	Flue Gas	Flow	Rate	wet scfm		34,274	34,274	34,274	34,274	34,253	34,253	34,253	34,274	34,274	34,274	34,274	34,274	34,295	34,274	34,274	34,274	34,274	34,274	34,274	34,274	34,274	34,253	34,274	34,274	34,295	34,316	34,337	34,358	34,358	34,358	34,358	34,379
DPT-2104	Ki	Hood	Pressure	in. H ₂ 0		-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
TT-2403	Heat	Exchanger	Exit	ኩ		432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432	432
TT-2105	Ki	Back-End	Temp.	Ļ		895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	894	894	894	894	894	894	894
AR-2401	Shale	Feed	Rate	tph		22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4
PT-2302	LLGF	Feed Line	Pressure	psi		35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.4	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.2	35.2	35.2	35.2	35.3	35.3	35.3	35.3	35.3	35.3
MM-2401	LLGF	Feed	Rate	mdb		10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.3	10.3	10.2	10.3	10.3	10.3	10,3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.2	10.2	10.2	10.3	10.3	10.3	10.3
Tag No.		Parameter		Units	⊏∥			1/12/2011 10:41	1/12/2011 10:42	1/12/2011 10:43	1/12/2011 10:44	1/12/2011 10:45	1/12/2011 10:46	1/12/2011 10:47	1/12/2011 10:48	1/12/2011 10:49	1/12/2011 10:50	1/12/2011 10:51	1/12/2011 10:52	1/12/2011 10:53	1/12/2011 10:54	1/12/2011 10:55	1/12/2011 10:56	1/12/2011 10:57	1/12/2011 10:58	1/12/2011 10:59	1/12/2011 11:00	1/12/2011 11:01	1/12/2011 11:02	1/12/2011 11:03	1/12/2011 11:04	1/12/2011 11:05	1/12/2011 11:06	1/12/2011 11:07	1/12/2011 11:08	1/12/2011 11:09	1/12/2011 11:10

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January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04 Norlite Corporation - Cohoes, NY - MACT CPT 2010

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AO2-611 / F6-279		Oxygen	Concentration	% vol.		15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
XO7-400 / F6-187	CO Concentration	corrected to	7% O ₂	mdd		36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0	36.0
FT-5555	Flue Gas	Flow	Rate	wet scfm		34,379	34,379	34,379	34,379	34,358	34,379	34,379	34,379	34,400	34,400	34,421	34,442	34,442	34,442	34,463	34,463	34,484	34,463	34,463	34,463	34,463	34,463	34,484	34,484	34,505	34,526	34,526	34,547	34,568	34,589	34,589	34,631
DPT-2104	Ę	Hood	Pressure	in. H ₂ O		-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.2	-0.2
TT-2403	Heat	Exchanger	Exit	ኍ		432	432	432	432	432	432	432	432	432	432	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433	433
TT-2105	Kiln	Back-End	Temp.	ţ.		894	894	894	894	894	894	894	894	894	894	894	894	894	895	895	895	895	895	895	895	895	895	894	894	894	894	894	894	894	894	894	894
AR-2401	Shale	Feed	Rate	tph		22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.3	22.3	22.3	22.4	22.4	22.4	22.4	22.4	22.4
PT-2302	LLGF	Feed Line	Pressure	isd		35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3
MM-2401	LLGF	Feed	Rate	mdg		10.3	10.3	10.2	10.2	10.2	10.2	10.2	10.2	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
Tag No.		Parameter	-	Units	Date / Time	1/12/2011 11:11	1/12/2011 11:12	1/12/2011 11:13	1/12/2011 11:14	1/12/2011 11:15	1/12/2011 11:16	1/12/2011 11:17	1/12/2011 11:18	1/12/2011 11:19	1/12/2011 11:20	1/12/2011 11:21	1/12/2011 11:22	1/12/2011 11:23	1/12/2011 11:24	1/12/2011 11:25	1/12/2011 11:26	1/12/2011 11.27	1/12/2011 11:28	1/12/2011 11:29	1/12/2011 11:30	1/12/2011 11:31		1/12/2011 11:33	1/12/2011 11:34	1/12/2011 11:35	1/12/2011 11:36	1/12/2011 11:37	1/12/2011 11:38	1/12/2011 11:39	1/12/2011 11:40	1/12/2011 11:41	1/12/2011 11:42

January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

		T. COOC				TO 100		107 017 007	
ag No.	MM-2401	P1-2302	AK-2401	11-2105	11-2403	DP1-2104	F I-5555	XO7-400 / F6-18/	AOZ-611 / F6-2/9
	LLGF	LLGF	Shale	Kil	Heat	Κij	Flue Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdg	jsd	tph	ŗ.	ŗ.	in. H ₂ O	wet scfm	wdd	% vol.
Date / Time									
1/12/2011 11:43	10.3	35.3	22.4	894	433	-0.2	34,652	36.0	15.0
1/12/2011 11:44	10.3	35.3	22.4	894	433	-0.2	34,673	36.0	15.0
1/12/2011 11:45	10.3	35.3	22.4	894	433	-0.2	34,694	36.0	15.0
1/12/2011 11:46	10.2	35.3	22.4	894	433	-0.2	34,715	36.0	15.0
1/12/2011 11:47	10.2	35.3	22.4	894	433	-0.2	34,736	36.0	15.0
1/12/2011 11:48	10.2	35.3	22.4	894	433	-0.2	34,757	36.0	15.0
1/12/2011 11:49	10.2	35.3	22.4	894	433	-0.2	34,778	36.0	15.0
1/12/2011 11:50	10.2	35.3	22.4	894	433	-0.2	34,799	36.0	15.0
1/12/2011 11:51	10.2	35.3	22.4	894	433	-0.2	34,820	36.0	15.0
1/12/2011 11:52	10.2	35.3	22.4	894	433	-0.2	34,862	36.0	15.0
1/12/2011 11:53	10.2	35.3	22.4	894	433	-0.2	34,883	36.0	15.0
1/12/2011 11:54	10.2	35.3	22.4	894	433	-0.2	34,925	36.0	15.0
1/12/2011 11:55	10.2	35.3	22.4	894	433	-0.2	34,946	36.0	15.0
1/12/2011 11:56	10.2	35.3	22.4	894	433	-0.2	34,967	36.0	15.0
1/12/2011 11:57	10.2	35.3	22.4	894	433	-0.2	34,988	36.0	15.0
1/12/2011 11:58	10.3	35.3	22.4	894	433	-0.2	35,030	36.0	15.0
1/12/2011 11:59	10.3	35.3	22.4	894	433	-0.2	35,051	36.0	15.0
1/12/2011 12:00	10.3	35.3	22.4	894	433	-0.2	35,093	36.0	15.0
1/12/2011 12:01	10.3	35.3	22.4	894	433	-0.2	35,093	36.0	15.0
1/12/2011 12:02	10.3	35.3	22.4	894	433	-0.2	35,114	36.0	15.0
1/12/2011 12:03	10.3	35.3	22.4	894	433	-0.2	35,135	36.0	15.0
1/12/2011 12:04	10.3	35.3	22.4	894	433	-0.2	35,156	35.0	15.0
		,							
AVERAGE	10.2	35.8	22.4	895	432	-0.2	34,354	36.6	15.6
MINIMOM	9.8	35.2	22.1	894	429	-0.3	33,497	35.0	15.0
MAXIMUM	10.3	38.2	22.5	803	433	-0.2	35,786	38.0	16.0

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January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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AO2-611 / F6-279		Oxygen	Concentration	% vol.		27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	27.0	23.0	18.0	16.0	15.0	15.0	14.0	14.0	14.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	. 15.0	15.0
XO7-400 / F6-187	CO Concentration	corrected to	7% O ₂	mdd		95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	94.0	79.0	92.0	43.0	39.0	39.0	39.0	39.0	39.0	39.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
FT-5555	Flue Gas	Flow	Rate	wet scfm		45,006	45,069	45,111	45,153	45,258	45,300	45,342	45,405	45,426	45,426	45,447	45,468	45,468	45,489	45,510	45,594	45,720	45,783	45,804	45,846	45,825	45,846	45,867	45,846	45,867	45,846	45,867	45,888	45,909	45,930	45,993	45,972
DPT-2104	Kiin	Hood	Pressure	in. H ₂ 0		-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.4	-0.4	-0.4
TT-2403	Heat	Exchanger	Exit	۴		433	434	434	434	434	434	434	434	434	434	434	434	435	435	435	435	435	435	435	435	435	435	435	436	436	436	436	436	436	436	436	436
TT-2105	Kiln .	Back-End	Temp.	ኑ የ		892	892	892	892	892	892	892	892	892	893	893	893	894	894	894	894	894	894	894	894	894	894	895	895	895	895	895	895	895	895	895	895
AR-2401	Shale	Feed	Rate	tph		23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.7
PT-2302	LLGF	Feed Line	Pressure	psi		35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.1
MM-2401	LLGF	Feed	Rate	db		9.7	9.7	9.7	9.7	8.6	9.8	9.8	9.6	10.1	10.2	10.3	10.3	10.4	10.4	10.4	10.4	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
Tag No.		Parameter		Units	Date / Time	1/12/2011 13:33	1/12/2011 13:34	1/12/2011 13:35	1/12/2011 13:36	1/12/2011 13:37	1/12/2011 13:38	1/12/2011 13:39	1/12/2011 13:40		1/12/2011 13:42	1/12/2011 13:43	1/12/2011 13:44	1/12/2011 13:45	1/12/2011 13:46	1/12/2011 13:47	1/12/2011 13:48	1/12/2011 13:49	1/12/2011 13:50	1/12/2011 13:51	1/12/2011 13:52		1/12/2011 13:54	1/12/2011 13:55			1/12/2011 13:58	1/12/2011 13:59	1/12/2011 14:00	1/12/2011 14:01	1/12/2011 14:02	1/12/2011 14:03	1/12/2011 14:04

January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

			. 11		מוום סבות ספרומוווים ו מומוווכנכום	מומוור			
Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	Kiln	Heat	Kiln	Flue Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
-	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units Date / Time	шdб	isd	tph	ሴ	<u>.</u>	in. H ₂ O	wet scfm	шdd	% vol.
1/12/2011 14:05	10.5	35.1	23.7	895	436	-0.4	45,993	40.0	15.0
1/12/2011 14:06	10.5	35.1	23.8	895	436	-0.4	45,972	40.0	15.0
1/12/2011 14:07	10.5	35.1	23.8	895	436	-0.4	46,014	40.0	15.0
1/12/2011 14:08	10.5	35.1	23.8	895	436	-0.4	46,035	40.0	15.0
1/12/2011 14:09	10.5	35.1	23.8	895	436	-0.4	46,014	40.0	15.0
1/12/2011 14:10	10.5	35.1	23.8	895	436	-0.4	46,035	40.0	15.0
1/12/2011 14:11	10.5	35.1	23.8	895	436	-0.4	45,993	40.0	15.0
1/12/2011 14:12	10.5	35.1	23.8	895	436	-0.4	45,972	40.0	15.0
1/12/2011 14:13	10.5	35.1	23.8	895	436	-0.4	46,035	40.0	15.0
1/12/2011 14:14	10.5	35.1	23.8	895	436	-0.4 4.0-	46,056	40.0	15.0
1/12/2011 14:15	10.5	35.1	23.8	895	436	-0.4	46,035	40.0	15.0
1/12/2011 14:16	10.5	35.1	23.7	895	436	-0.4	46,035	40.0	15.0
1/12/2011 14:17	10.5	35.1	23.7	895	436	-0.4	46,056	40.0	15.0
1/12/2011 14:18	10.5	35.1	23.7	895	436	-0.4	46,140	41.0	15.0
1/12/2011 14:19	10.5	35.1	23.7	895	436	-0.4	46,182	41.0	15.0
	10.5	35.1	23.7	894	436	-0.4	46,203	41.0	15.0
1/12/2011 14:21	10.5	35.1	23.6	894	436	-0.4	46,245	41.0	15.0
1/12/2011 14:22	10.5	35.1	23.6	894	436	-0.3	46,287	41.0	15.0
1/12/2011 14:23	10.5	35.1	23.6	894	436	-0.4	46,308	41.0	15.0
1/12/2011 14:24	10.5	35.1	23.6	894	436	-0.3	46,308	41.0	15.0
1/12/2011 14:25	10.5	35.1	23.5	894	436	-0.4	46,308	41.0	15.0
1/12/2011 14:26	10.5	35.1	23.5	894	436	-0.4	46,224	41.0	15.0
1/12/2011 14:27	10.5	35.1	23.5	894	436	-0.4	46,161	41.0	15.0
1/12/2011 14:28	10.5	35.1	23.5	894	436	-0.4	46,161	41.0	15.0
1/12/2011 14:29	10.4	35.1	23.5	894	436	-0.4	46,161	41.0	15.0
	10.4	35.1	23.5	894	436	-0.4	46,140	41.0	15.0
	10.4	35.1	23.5	894	436	-0.4	46,119	41.0	15.0
1/12/2011 14:32	10.4	35.1	23.5	894	436	-0.4	46,119	41.0	15.0
1/12/2011 14:33	10.4	35.1	23.4	894	436	-0.4	46,098	41.0	15.0
1/12/2011 14:34	10.4	35.1	23.4	894	436	-0.4	46,077	41.0	15.0
1/12/2011 14:35	10.4	35.1	23.4	894	436	-0.4	46,035	41.0	15.0
1/12/2011 14:36	10.4	35.1	23.4	894	436	-0.4	46,077	41.0	15.0

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January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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AO2-611 / F6-279		Oxygen	Concentration	% vol.		15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
XO7-400 / F6-187	CO Concentration	corrected to	7% O ₂	mdd		41.0	41.0	41.0	41.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	42.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	730
FT-5555	Flue Gas	Flow	Rate	wet scfm		46,056	46,035	46,035	45,993	46,014	46,035	46,098	46,140	46,203	46,266	46,308	46,266	46,140	46,098	46,077	46,077	46,140	46,203	46,203	46,287	46,329	46,392	46,392	46,392	46,392	46,371	46,329	46,392	46,371	46,371	46,350	18 250
DPT-2104	Ϋ́	Hood	Pressure	in. H ₂ O		-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.5	-0.5	-0.4 4.0	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	2
TT-2403 D	Heat	Exchanger	Exit	ኍ		436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	736
TT-2105	Ā	Back-End	Temp.	[H		894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	895	202
AR-2401	Shale	Feed	Rate	tph		23.4	23.4	23.4	23.4	23.3	23.3	23.3	23.3	23.3	23.2	23.2	23.2	23.2	23.2	23.2	23.1	23.1	23.1	23.1	23.1	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	22.9	22.0
PT-2302	LLGF	Feed Line	Pressure	isd		35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.1	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
MM-2401	LLGF	Feed	Rate	mdg		10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
Tag No.		Parameter		Units	Date / Time	1/12/2011 14:37	1/12/2011 14:38	1/12/2011 14:39	1/12/2011 14:40	1/12/2011 14:41	1/12/2011 14:42	1/12/2011 14:43	1/12/2011 14:44	1/12/2011 14:45	1/12/2011 14:46	1/12/2011 14:47	1/12/2011 14:48	1/12/2011 14:49	1/12/2011 14:50	1/12/2011 14:51	1/12/2011 14:52	1/12/2011 14:53	1/12/2011 14:54	1/12/2011 14:55	1/12/2011 14:56	1/12/2011 14:57	1/12/2011 14:58	1/12/2011 14:59	1/12/2011 15:00	1/12/2011 15:01	1/12/2011 15:02	1/12/2011 15:03	1/12/2011 15:04	1/12/2011 15:05	1/12/2011 15:06	1/12/2011 15:07	1/10/2011 15:08

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January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35 Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

i i	,0,0	2000	7070	20,00		TOY TOO		100 001 100	050 077 7 700 000
ag No.	MIM-2401	F1-2302	AK-2401	COLZ-11	1-2403		CCCC-11	AU/ -400 / F6-18/	AUZ-011/F0-Z/8
	LLGF	LLGF	Shale	Αij	Heat	틸	Flue Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdb	jsd	tph	Ľ.	Ļ	in. H ₂ O	wet scfm	mdd	% vol.
Date / Time									
1 1	10.4	35.0	22.9	895	436	-0.4	46,392	43.0	15.0
1/12/2011 15:10	10.4	35.0	22.9	895	436	-0.4	46,413	43.0	15.0
1/12/2011 15:11	10.4	35.0	22.8	895	437	-0.4	46,455	43.0	15.0
1/12/2011 15:12	10.4	35.0	22.8	895	437	-0.4	46,497	43.0	15.0
1/12/2011 15:13	10.4	35.0	22.8	895	437	-0.4	46,455	43.0	15.0
1/12/2011 15:14	10.4	35.0	22.8	895	437	-0.5	46,434	43.0	15.0
1/12/2011 15:15	10.4	35.0	22.8	895	437	-0.4	46,539	43.0	15.0
1/12/2011 15:16	10.4	35.0	22.8	895	437	-0.4	46,560	43.0	15.0
1/12/2011 15:17	10.4	35.0	22.8	895	437	-0.4	46,602	43.0	15.0
1/12/2011 15:18	10.4	35.0	22.8	895	437	-0.4	46,581	43.0	15.0
1/12/2011 15:19	10.4	35.0	22.8	895	437	-0.4	46,539	43.0	15.0
1/12/2011 15:20	10.4	35.0	22.8	895	437	-0.4	46,497	43.0	15.0
1/12/2011 15:21	10.4	35.0	22.8	895	437	-0.4 4.0-	46,476	43.0	15.0
1/12/2011 15:22	10.4	35.0	22.8	895	437	-0.4	46,434	43.0	15.0
1/12/2011 15:23	10.4	35.0	22.8	895	437	-0.4	46,413	43.0	15.0
1/12/2011 15:24	10.4	35.0	22.8	895	436	-0.4	46,392	43.0	15.0
1/12/2011 15:25	10.4	35.0	22.8	895	436	-0.4	46,350	43.0	15.0
1/12/2011 15:26	10.3	35.0	22.8	895	436	-0.4	46,329	43.0	15.0
1/12/2011 15:27	10.3	35.0	22.8	895	436	-0.4	46,287	43.0	16.0
1/12/2011 15:28	10.3	35.0	22.8	895	436	-0.4	46,182	43.0	16.0
	10.3	35.0	22.8	895	436	-0.4	46,203	43.0	16.0
1/12/2011 15:30	10.3	35.0	22.8	895	436	-0.4	. 46,161	43.0	16.0
1/12/2011 15:31	10.3	35.0	22.8	895	436	-0.4	46,203	43.0	16.0
1/12/2011 15:32	10.3	35.0	22.8	895	436	-0.4	46,098	43.0	16.0
1/12/2011 15:33	10.3	35.0	22.8	895	436	-0.4	46,056	43.0	16.0
1/12/2011 15:34	10.3	35.0	22.8	895	436	-0.4	46,098	43.0	16.0
1/12/2011 15:35	10.3	35.0	22.8	895	436	-0.4	46,161	43.0	16.0
1/12/2011 15:36	10.4	35.0	22.8	895	436	-0.4	46,098	43.0	16.0
1/12/2011 15:37	10.4	35.0	22.8	895	436	4.0-	46,119	43.0	16.0
1/12/2011 15:38	10.4	35.0	22.7	968	436	-0.5	46,119	43.0	16.0
1/12/2011 15:39	10.4	35.0	22.7	968	436	-0.4	46,140	43.0	16.0
1/12/2011 15:40	10.4	35.0	22.7	968	436	-0.4	46,203	43.0	16.0

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January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

	70,0	0000	2070	1070		Ш		10, 01, 00, 10,	
lag No.	MM-2401	F1-230Z	AK-2401	5012-11	11-2403	DP1-2104	F -5555	XO7-400 / F6-187	AOZ-611 / F6-2/9
	LLGF	LLGF	Shale	Ä	Heat	Kiin	Flue Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdb	psi	tph	Ļ	Ļ.	in. H ₂ O	wet scfm	mdd	% vol.
ΞII									-
	10.4	35.0	22.7	895	436	-0.5	46,245	43.0	16.0
1/12/2011 15:42	10.4	35.0	22.7	895	436	-0.4	46,308	43.0	16.0
1/12/2011 15:43	10.4	35.0	22.7	895	436	-0.5	46,329	43.0	16.0
1/12/2011 15:44	10.4	35.0	22.7	895	436	-0.4	46,350	43.0	16.0
1/12/2011 15:45	10.4	35.0	22.7	895	435	-0.4	46,308	43.0	16.0
1/12/2011 15:46	10.4	35.0	22.7	895	435	-0.4	46,287	43.0	16.0
1/12/2011 15:47	10.4	35.0	22.7	895	435	-0.3	46,266	43.0	16.0
1/12/2011 15:48	10.4	35.0	22.7	895	435	-0.4	46,266	43.0	16.0
1/12/2011 15:49	10.5	35.0	22.8	895	435	-0.4	46,266	43.0	16.0
1/12/2011 15:50	10.5	35.0	22.8	895	435	-0.4	46,287	43.0	16.0
1/12/2011 15:51	10.5	35.0	22.7	895	435	-0.4	46,287	43.0	16.0
1/12/2011 15:52	10.5	35.0	22.8	895	435	-0.4	46,266	43.0	16.0
1/12/2011 15:53	10.5	35.0	22.8	895	435	-0.4	46,203	43.0	16.0
1/12/2011 15:54	10.5	35.0	22.8	895	435	-0.4	46,161	43.0	16.0
1/12/2011 15:55	10.5	35.0	22.8	895	435	-0.4	46,119	43.0	16.0
1/12/2011 15:56	10.5	35.0	22.8	895	435	-0.4	46,035	43.0	16.0
1/12/2011 15:57	10.5	35.0	22.8	895	435	-0.4	46,014	43.0	16.0
1/12/2011 15:58	10.5	35.0	22.8	895	435	-0.4	45,951	43.0	16.0
1/12/2011 15:59	10.5	35.0	22.8	895	435	-0.4	45,930	43.0	16.0
1/12/2011 16:00	10.5	35.0	22.8	895	435	-0.4	46,035	43.0	16.0
1/12/2011 16:01	10.5	34.9	22.8	895	435	-0.4	46,035	43.0	16.0
1/12/2011 16:02	10.5	34.9	22.8	895	435	-0.4	46,014	43.0	16.0
	10.5	34.9	22.8	895	435	-0.4	46,014	43.0	16.0
1/12/2011 16:04	10.5	34.9	22.8	895	435	-0.4	45,951	43.0	16.0
1/12/2011 16:05	10.5	34.9	22.8	895	435	-0.4	45,930	43.0	16.0
1/12/2011 16:06	10.5	34.9	22.8	895	435	-0.4	45,951	43.0	16.0
1/12/2011 16:07	10.5	34.9	22.8	895	435	-0.5	45,909	43.0	16.0
1/12/2011 16:08	10.5	34.9	22.8	895	435	-0.4	45,951	43.0	16.0
1/12/2011 16:09	10.5	34.9	22.8	895	435	-0.4	46,077	43.0	16.0
1/12/2011 16:10	10.5	34.9	. 22.7	895	435	-0.5	46,056	43.0	16.0
1/12/2011 16:11	10.5	34.9	22.7	895	435	-0.4	46,035	43.0	16.0
1/12/2011 16:12	10.5	34.9	22.7	895	435	-0.4	45,993	43.0	16.0

January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35 Norlite Corporation - Cohoes, NY - MACT CPT 2010 Process and CEM Operating Parameters

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January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35 Norlite Corporation - Cohoes, NY - MACT CPT 2010 **Process and CEM Operating Parameters**

Tod Mo	NANA 2404	DT-2302	AD 2404	TT_2105	11.2403	1012 Tan	FT	XO7_400 / EE_487	AO2 611 / E6 270
, ,	10		Shale	Xil	Heat	. X	Flue Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdß	isd	tph	ř.	Ļ	in. H ₂ O	wet scfm	mdd	% vol.
- 11		7		000	707		77.17	0 07	0.07
	10.4	36.7	23.3	988	434	-0.4 -0.4	47,526	43.0	16.0
	10.4	36.7	23.3	968	434	-0.3	47,337	43.0	16.0
	10.4	36.7	23.3	896	434	-0.4	47,148	43.0	16.0
1/13/2011 8:36	10.4	36.7	23.3	968	434	-0.4	46,917	43.0	16.0
1/13/2011 8:37	10.4	36.7	23.3	895	434	-0.4	46,560	43.0	16.0
1/13/2011 8:38	10.4	36.7	23.3	895	434	-0.4	46,350	43.0	16.0
1/13/2011 8:39	10.4	36.7	23.3	895	434	-0.4	45,993	44.0	16.0
1/13/2011 8:40	10.4	36.7	23.3	895	434	-0.4	45,741	43.0	16.0
1/13/2011 8:41	10.4	36.7	23.3	895	434	-0.4	45,615	44.0	16.0
1/13/2011 8:42	10.4	36.7	23.4	895	435	-0.4	45,447	44.0	16.0
	10.4	36.7	23.3	895	435	-0.4	45,300	44.0	16.0
1/13/2011 8:44	10.4	36.7	23.4	895	435	-0.4	45,048	44.0	16.0
	10.4	36.6	23.4	895	435	-0.4	44,922	44.0	16.0
1/13/2011 8:46	10.4	36.6	23.4	895	435	-0.4	44,859	44.0	16.0
1/13/2011 8:47	10.4	36.6	23.3	895	435	-0.4	44,754	44.0	16.0
1/13/2011 8:48	10.4	36.6	23.4	895	435	-0.4	44,586	44.0	16.0
1/13/2011 8:49	10.4	36.6	23.3	895	435	-0.4	44,544	44.0	16.0
1/13/2011 8:50	10.4	36.6	23.3	895	435	-0.4	44,418	44.0	16.0
1/13/2011 8:51	10.4	36.6	23.4	895	435	-0.4	44,355	44.0	16.0
	10.4	36.6	23.3	895	435	-0.5	44,229	44.0	16.0
	10.4	36.6	23.3	895	435	-0.4	44,145	44.0	16.0
	10.4	36.6	23.3	895	435	-0.5	44,061	44.0	16.0
	10.4	36.6	23.3	895	436	-0.4	44,082	44.0	16.0
1/13/2011 8:56	10.4	36.6	23.3	895	436	-0.4	44,040	44.0	16.0
	10.4	36.6	23.4	895	436	-0.5	44,019	44.0	16.0
1/13/2011 8:58	10.4	36.6	23.4	895	436	-0.4	43,956	44.0	16.0
1/13/2011 8:59	10.4	36.6	23.4	895	436	-0.5	43,977	44.0	16.0
1/13/2011 9:00	10.4	36.6	23.4	895	436	-0.4	43,998	44.0	16.0
1/13/2011 9:01	10.4	36.6	23.4	895	436	-0.4	44,040	44.0	16.0
1/13/2011 9:02	10.4	36.6	23.4	895	436	-0.5	44,040	44.0	16.0
	10.4	36.6	23.4	895	436	-0.4	44,061	44.0	16.0
1/13/2011 9:04	10.4	36.6	23.4	895	436	-0.5	44,103	44.0	16.0

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January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35 Norlite Corporation - Cohoes, NY - MACT CPT 2010

Parameters	
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Process and	

ON DET	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7.400 / E6.187	AO2-611 / E6-279
ì	LLGF	LLGF	Shale	Χiin	Heat	Κij	Flue Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	db	psi	tb	Ļ	ţ	in. H ₂ O	wet scfm	mdd	% vol.
Date / Time									
1/13/2011 9:05	10.4	36.6	23.4	895	436	-0.4	44,124	44.0	16.0
1/13/2011 9:06	10.4	36.6	23.4	895	436	-0.4	44,103	44.0	16.0
1/13/2011 9:07	10.4	36.6	23.4	895	436	-0.5	44,124	44.0	16.0
1/13/2011 9:08	10.4	36.5	23.4	895	436	-0.4	44,061	44.0	16.0
1/13/2011 9:09	10.4	36.5	23.4	895	436	-0.5	44,082	44.0	16.0
1/13/2011 9:10	10.4	36.5	23.4	895	436	-0.4	44,082	44.0	16.0
1/13/2011 9:11	10.4	36.5	23.4	895	436	-0.4	44,082	44.0	16.0
1/13/2011 9:12	10.4	36.5	23.4	895	436	-0.4	44,103	44.0	16.0
1/13/2011 9:13	10.4	36.5	23.4	895	436	-0.4	44,082	44.0	16.0
	10.4	36.5	23.4	895	437	-0.5	44,061	44.0	16.0
	10.4	36.5	23.4	895	437	-0.4	44,082	44.0	16.0
	10.4	36.5	23.4	895	437	-0.4	44,082	45.0	16.0
1/13/2011 9:17	10.4	36.5	23.4	895	437	-0.5	44,103	45.0	16.0
	10.4	36.5	23.4	895	437	-0.5	44,124	45.0	16.0
	10.4	36.5	23.4	895	437	-0.5	44,145	45.0	16.0
	10.4	36.5	23.3	895	437	-0.4	44,082	45.0	16.0
	10.4	36.5	23.3	895	437	-0.5	44,103	45.0	16.0
1/13/2011 9:22	10.4	36.5	23.3	895	437	-0.4	44,124	45.0	16.0
1/13/2011 9:23	10.4	36.5	23.3	895	437	-0.4	44,103	45.0	16.0
	10.3	36.5	23.4	895	437	-0.4	44,145	45.0	16.0
1/13/2011 9:25	10.3	36.5	23.3	895	437	-0.4	44,166	45.0	16.0
1/13/2011 9:26	10.4	36.5	23.3	895	437	-0.5	44,208	45.0	16.0
	10.4	36.5	23.3	895	437	-0.4	44,229	45.0	16.0
1/13/2011 9:28	10.4	36.5	23.3	895	437	-0.4	44,229	45.0	16.0
1/13/2011 9:29	10.4	36.5	23.4	895	437	-0.4	44,250	45.0	16.0
1/13/2011 9:30	10.4	36.5	23.4	895	437	-0.4	44,250	45.0	16.0
	10.4	36.5	23.4	895	437	-0.4	44,292	45.0	16.0
1/13/2011 9:32	10.4	36.4	23.4	895	437	-0.4	44,334	45.0	16.0
1/13/2011 9:33	10.4	36.4	23.4	895	437	-0.5	44,397	45.0	16.0
	10.4	36.4	23.4	895	437	-0.4	44,439	45.0	16.0
	10.4	36.4	23.4	895	437	-0.4	44,397	45.0	16.0
1/13/2011 9:36	10.4	36.4	23.4	895	437	-0.5	44,355	45.0	16.0

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January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

44 c4 F	1484 2404	COCC TO	2020	TT 240E	2070 11	1010	T 6565	VO7 400 1 FG 403	070 044 / 150 070
ag No.	1047-ININ	F1-2302	AR-2401	2017-11	5047-11	PU 1-1-104	CCC-1 -1	AU1-4007 F0-107	AUZ-011/F0-Z/9
	LLGF	LLGF	Shale	Ξ	Heat	Ā	Flue Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdg	isd	tp	ļ.	ĥ	in. H ₂ O	wet scfm	mdd	% vol.
1/13/2011 9:37	10.4	36.4	23.4	895	437	-0.4	44.418	45.0	16.0
1/13/2011 9:38	10.4	36.4	23.4	895	437	-0.5	44,481	45.0	16.0
1/13/2011 9:39	10.4	36.4	23.4	895	437	-0.4	44,544	45.0	16.0
1/13/2011 9:40	10.4	36.4	23.4	895	437	-0.4	44,586	45.0	16.0
1/13/2011 9:41	10.4	36.4	23.4	895	437	-0.5	44,628	45.0	16.0
1/13/2011 9:42	10.4	36.4	23.4	895	437	-0.4	44,628	45.0	16.0
1/13/2011 9:43	10.4	36.4	23.4	895	437	-0.4	44,649	45.0	16.0
1/13/2011 9:44	10.4	36.4	23.4	895	437	-0.4	44,691	45.0	16.0
1/13/2011 9:45	10.4	36.4	23.4	895	437	-0.4	44,733	45.0	16.0
1/13/2011 9:46	10.4	36.4	23.4	895	437	-0.4	44,733	45.0	16.0
1/13/2011 9:47	10.4	36.4	23.4	895	437	4 .0-	44,754	45.0	16.0
1/13/2011 9:48	10.4	36.4	23.4	895	437	-0.4	44,733	45.0	16.0
1/13/2011 9:49	10.4	36.4	23.4	895	437	-0.4	44,712	45.0	16.0
1/13/2011 9:50	10.4	36.4	23.4	895	437	-0.4	44,733	46.0	16.0
1/13/2011 9:51	10.4	36.4	23.4	895	437	-0.4	44,796	46.0	16.0
1/13/2011 9:52	10.4	36.4	23.4	895	437	-0.5	44,838	46.0	16.0
1/13/2011 9:53	10.4	36.4	23.4	895	437	-0.5	44,859	46.0	16.0
1/13/2011 9:54	10.4	36.4	23.4	895	437	-0.4	44,859	46.0	16.0
1/13/2011 9:55	10.4	36.4	23.4	895	437	<u>5</u> '0-	44,838	46.0	16.0
1/13/2011 9:56	10.4	36.4	23.4	895	437	-0.4	44,838	46.0	16.0
1/13/2011 9:57	10.4	36.4	23.4	895	437	-0.5	44,817	46.0	16.0
1/13/2011 9:58	10.3	36.4	23.4	895	437	-0.5	44,838	46.0	16.0
1/13/2011 9:59	10.3	36.4	23.4	895	437	-0.4	44,859	46.0	16.0
	10.3	36.4	23.4	895	437	-0.5	44,859	46.0	16.0
	10.3	36.4	23.4	895	437	-0.4	44,859	46.0	16.0
1/13/2011 10:02	10.3	36.4	23.4	895	437	-0.4	44,901	46.0	16.0
1/13/2011 10:03	10.3	36.4	23.4	895	437	-0.5	44,901	46.0	16.0
1/13/2011 10:04	10.3	36.4	23.4	895	437	-0.4	44,880	46.0	16.0
1/13/2011 10:05	10.3	36.4	23.4	895	437	-0.4	44,922	46.0	16.0
1/13/2011 10:06	10.3	36.4	23.4	895	437	-0.4	44,922	46.0	16.0
1/13/2011 10:07	10.3	36.4	23.4	895	436	-0.5	44,901	46.0	16.0
1/13/2011 10:08	10.3	36.4	23.4	895	436	-0.4	44,922	46.0	16.0

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January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

	_							_	_															_													_
AO2-611 / F6-279		Oxygen	Concentration	% vol.		16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
XO7-400 / F6-187	CO Concentration	corrected to	7% O ₂	mdd		46.0	46.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	46.0	46.0	46.0	46.0	46.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0
FT-5555	Flue Gas	Flow	Rate	wet scfm		45,006	45,027	45,027	45,006	45,027	45,111	45,174	45,174	45,258	45,279	45,300	45,321	45,342	45,384	45,405	45,426	45,468	45,573	45,615	45,636	45,636	45,657	45,699	45,678	45,636	45,615	45,615	45,636	45,636	45,636	45,615	45,636
DPT-2104	Kiih	Hood	Pressure	in. H ₂ 0		-0.4	-0.5	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.4	-0.4	-0.5	-0.4	-0.4	-0.4	-0.5	-0.4	-0.5	-0.5	-0.4	-0.5	-0.4	-0.5	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.4
TT-2403	Heat	Exchanger	Exit	#		436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436
TT-2105	Kii	Back-End	Temp.	۴		895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	968	968	896	968	968	968	968	968	968	968	968	968	896	896	988	968	968
AR-2401	Shale	Feed	Rate	tph		23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4
PT-2302	LLGF	Feed Line	Pressure	psi		36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.5	36.4	36.4	36.4	36.5	36.4	36.4	36.4	36.4	36.4	36.4	36.4	36.3
MM-2401	LLGF	Feed	Rate	mdß		10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.4	10.4	10.4	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.4	10.4
Tag No.)	Parameter	_	Units	Date / IIme		1/13/2011 10:10	1/13/2011 10:11	1/13/2011 10:12	1/13/2011 10:13	1/13/2011 10:14	1/13/2011 10:15	1/13/2011 10:16	1/13/2011 10:17	1/13/2011 10:18	1/13/2011 10:19	1/13/2011 10:20	1/13/2011 10:21	1/13/2011 10:22	1/13/2011 10:23	1/13/2011 10:24	1/13/2011 10:25	1/13/2011 10:26	1/13/2011 10:27	1/13/2011 10:28	1/13/2011 10:29	1/13/2011 10:30	1/13/2011 10:31	1/13/2011 10:32	1/13/2011 10:33	1/13/2011 10:34	1/13/2011 10:35	1/13/2011 10:36	1/13/2011 10:37	1/13/2011 10:38	1/13/2011 10:39	1/13/2011 10:40

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January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35 Norlite Corporation - Cohoes, NY - MACT CPT 2010 Process and CEM Operating Parameters

ter Feed Rate gpm 10.44 10.45 10.44 10.45 10.44 10.45 10.44 10.48 10.44 10.48 10.44 10.49 10.49 10.49 10.44 10.50 10.44 10.50 10.44 10.50 10.44 10.50 10.44 10.50 10.44 10.50 10.44 10.50 10.44 10.50 10.44 10.50 10.44 10.50 10.44 10.50 10.44 10.50 10.44 10.50 10.44 10.50 10.44 11.00 10.44 10.44 11.00 10	PT-2302 LLGF Feed Line Pressure psi 36.3 36.3 36.3 36.3	AR-2401 Shale Feed	TT-2105 Kiln	TT-2403 Heat	DPT-2104 Kilp	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
Rate Peed Page Public Peed Page Public Peed Public Pee	ed Line essure psi 36.3 36.3 36.3 36.3 36.3 36.3 36.3	Shale	돌	Heat	Kila	()		
Feed Rate gpm 10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4	ed Line essure ps i 36.3 36.3 36.3 36.3 36.3 36.3 36.3	Food			<u> </u>	riue Gas	CO Concentration	
Rate 9pm 9 9	essure psi 36.3 36.3 36.3 36.3	3	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
mage 4.01 1 10.4 4	ps 36.3 36.3 36.3 36.3	Rate	Temp.	ШХİ	Pressure	Rate	7% O ₂	Concentration
10.1 10.4 10.4 10.4 10.4 10.4 10.4 10.4	36.3 36.3 36.3	tph	ĥ	ĥ	in. H ₂ O	wet scfm	mdd	% vol.
10.4 10.4	36.3	23.4	968	436	-0.5	45,678	47.0	16.0
10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4	36.3 36.3 36.3	23.4	968	436	-0.5	45,720	46.0	16.0
10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4	36.3	23.4	968	436	-0.5	45,741	46.0	16.0
10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4	36.3	23.4	968	436	-0.5	45,720	46.0	16.0
10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4		23.4	968	436	-0.5	45,783	46.0	16.0
10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4	36.2	23.4	968	436	-0.5	45,825	46.0	16.0
10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4	36.2	23.4	968	436	-0.4	45,846	46.0	16.0
10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4	36.2	23.4	968	436	-0.5	45,888	46.0	16.0
10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4	36.2	23.4	968	436	-0.5	45,951	46.0	16.0
10.4 10.4 10.4 10.4 10.4 10.4 10.4 10.4	36.2	23.4	968	436	-0.4	46,014	46.0	16.0
10:52 10.4 10:53 10.4 10:54 10.4 10:55 10.4 10:57 10.4 10:59 10.4 11:00 10.4 11:01 10.4 11:02 10.4 11:03 10.4 11:04 10.4	36.2	23.4	968	436	-0.5	46,035	46.0	16.0
10:53 10.4 10:54 10.4 10:55 10.4 10:56 10.4 10:59 10.4 11:00 10.4 11:01 10.4 11:02 10.4 11:04 10.4 11:05 10.4	36.2	23.4	968	436	-0.4	45,993	46.0	16.0 ×
10:54 10.4 10:55 10.4 10:56 10.4 10:58 10.4 10:59 10.4 11:00 10.4 11:01 10.4 11:02 10.4 11:03 10.4 11:05 10.4	36.1	23.4	968	436	-0.4	45,993	46.0	16.0
10:55 10.4 10:56 10.4 10:57 10.4 10:59 10.4 11:01 10.4 11:02 10.4 11:03 10.4 11:04 10.4 11:05 10.4	36.1	23.4	968	436	-0.4	45,993	46.0	16.0
10:56 10.4 10:57 10.4 10:59 10.4 11:01 10.4 11:02 10.4 11:03 10.4 11:03 10.4 11:05 10.4	36.1	23.4	968	436	-0.4	45,951	46.0	16.0
10:57 10.4 10:58 10.4 11:00 10.4 11:01 10.4 11:02 10.4 11:03 10.4 11:04 10.4	36.1	23.4	968	436	-0.4	45,951	46.0	16.0
10:58 10.4 10:59 10.4 11:00 10.4 11:01 10.4 11:03 10.4 11:04 10.4 11:05 10.4	36.1	23.4	968	436	-0.4	45,951	46.0	16.0
10:59 10.4 11:00 10.4 11:01 10.4 11:03 10.4 11:04 10.4 11:05 10.4	36.0	23.4	968	436	-0.4	45,951	46.0	16.0
11:00 10.4 11:01 10.4 11:03 10.4 11:04 10.4 11:05 10.4	36.0	23.4	968	436	-0.4	45,972	46.0	16.0
11:01 · 10.4 11:02 10.4 11:03 10.4 11:05 10.4	35.9	23.4	968	436	-0.5	45,972	46.0	16.0
11:02 10.4 11:03 10.4 11:04 10.4 11:05 10.4	35.9	23.4	968	436	-0.5	46,014	46.0	16.0
11:03 10.4 11:04 10.4 11:05 10.4	35.8	23.4	968	436	-0.4	45,972	46.0	16.0
11:04 10.4	35.8	23.4	968	.436	-0.5	45,972	46.0	16.0
11:05 10.4	35.8	23.4	968	436	-0.4	45,951	46.0	16.0
7 07	35.8	23.4	968	436	-0.5	45,909	46.0	16.0
1/13/2011 11:06 10:4	35.7	23.4	968	436	Ö.5	45,930	46.0	16.0
1/13/2011 11:07 10.4	35.7	23.4	968	436	-0.4	45,930	46.0	16.0
1/13/2011 11:08 10.4	35.6	23.4	895	436	-0.4	45,909	46.0	16.0
10.4	35.6	23.4	895	436	-0.4	45,825	46.0	16.0
11:10 10.4	35.5	23.4	895	436	-0.4	45,804	46.0	16.0
11:11 10.4	35.5	23.3	895	436	-0.4	45,825	46.0	16.0
1/13/2011 11:12 10.4 3	35.5	23.3	895	436	-0.4	45,909	46.0	16.0

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January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

	_		_	_		_	_										_				_	_			_				_			_
AO2-611 / F6-279		Oxygen	Concentration	% vol.		16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0		16.0	16.0	16.0
XO7-400 / F6-187	CO Concentration	corrected to	7% O ₂	mdd		46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0		45.4	43.0	47.0
FT-5555	Flue Gas	Flow	Rate	wet scfm		45,909	45,867	45,804	45,825	45,783	45,825	45,951	45,972	45,972	45,951	45,909	45,888	45,867	45,783	45,762	45,783	45,762	45,741	45,678	45,720	45,783	45,762	45,783		45,151	43,956	47,526
DPT-2104	Ā	Hood	Pressure	in. H ₂ O		-0.4	-0.4	-0.4	-0.4	-0.5	9'0-	-0.4	-0.5	-0.4	-0.4	-0.5	-0.4	-0.4	-0.4	-0.5	-0.4	-0.4	-0.4	7 0-	-0.4	-0.4	-0.4	-0.4		-0.4	-0.5	-0.3
TT-2403	Heat	Exchanger	Exit	Ļ		436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	- 436	436		436	434	437
TT-2105	Kiln	Back-End	Temp.	Ļ		895	895	895	895	895	895	895	895	895	895	968	895	895	895	895	895	895	895	895	895	895	895	895		895	895	968
AR-2401	Shale	Feed	Rate	tph		23.3	23.3	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.3		23.4	23.3	23.4
PT-2302	LLGF	Feed Line	Pressure	isd		35.4	35.4	35.4	35.3	35.3	35.3	35.2	35.2	35.1	35.1	35.1	35.0	.35.0	34.9	34.9	34.9	34.8	34.8	34.7	34.7	34.7	34.7	34.6		36.2	34.6	36.7
MM-2401	LLGF	Feed	Rate	mdg	,	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4		10.4	10.3	10.4
Tag No.	-	Parameter		Units	Date / Time	1/13/2011 11:13	1/13/2011 11:14	1/13/2011 11:15	1/13/2011 11:16	1/13/2011 11:17	1/13/2011 11:18	1/13/2011 11:19	1/13/2011 11:20	1/13/2011 11:21	1/13/2011 11:22	1/13/2011 11:23	1/13/2011 11:24	1/13/2011 11:25	1/13/2011 11:26	1/13/2011 11:27	1/13/2011 11:28	1/13/2011 11:29	1/13/2011 11:30	1/13/2011 11:31	1/13/2011 11:32	1/13/2011 11:33	1/13/2011 11:34	1/13/2011 11:35		AVERAGE	MINIMUM	MAXIMUM

January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

+	,0,0	11	70,000	1010	20,0	1010 200	1011	107 007	
ag No.	MM-2401	P1-2302	AK-2401	C105-11	11-2403	DP1-2104	F1-5555	XO7-4007 F6-187	AUZ-611 / F6-279
	LLGF	LLGF	Shale	Kiln	Heat	Κij	Flue Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	gpm	įsď	tp	Ļ.	Ļ	in. H ₂ O	wet scfm	mdd	% vol.
Date / Time			•						
1/13/2011 12:00	10.3	35.3	23.4	894	435	-0.4	45,951	47.0	16.0
1/13/2011 12:01	10.3	35.4	23.4	894	435	-0.4	45,909	47.0	16.0
1/13/2011 12:02	10.3	35.4	23.4	894	435	-0.4	45,888	47.0	16.0
1/13/2011 12:03	10.3	35.5	23.4	894	435	-0.4	45,909	47.0	16.0
1/13/2011 12:04	10.3	35.5	23.4	894	435	-0.4	45,888	47.0	16.0
1/13/2011 12:05	10.3	35.6	23.4	894	435	-0.4	45,888	47.0	16.0
1/13/2011 12:06	10.3	35.6	23.4	894	435	-0.4	45,951	47.0	16.0
1/13/2011 12:07	10.3	35.7	23.4	894	435	-0.4	45,951	47.0	16.0
1/13/2011 12:08	10.3	35.7	23.4	894	435	-0.4	45,972	47.0	16.0
1/13/2011 12:09	10.3	35.8	23.4	894	435	-0.4	46,014	47.0	16.0
1/13/2011 12:10	10.3	35.8	23.4	894	435	-0.4	46,014	47.0	16.0
1/13/2011 12:11	10.2	35.8	23.4	894	435	-0.4	45,951	47.0	16.0
1/13/2011 12:12	10.2	35.9	23.4	894	435	-0.4	45,930	47.0	16.0
1/13/2011 12:13	10.2	35.9	23.4	894	435	-0.4	45,951	47.0	16.0
1/13/2011 12:14	10.2	36.0	23.4	894	435	-0.4	46,077	47.0	16.0
1/13/2011 12:15	10.2	36.0	23.4	894	435	-0.4	46,161	47.0	16.0
1/13/2011 12:16	10.2	36.0	23.4	894	435	-0.4	46,182	47.0	16.0
1/13/2011 12:17	10.2	36.1	23.4	894	435	-0.4	46,182	47.0	16.0
1/13/2011 12:18	10.2	36.1	23.4	894	435	-0.4	46,182	47.0	16.0
1/13/2011 12:19	10.2	36.1	23.4	894	435	-0.4	46,056	47.0	16.0
1/13/2011 12:20	10.2	36.2	23.4	894	435	-0.4	46,035	48.0	16.0
1/13/2011 12:21	10.2	36.2	23.4	894	435	-0.4	46,035	48.0	16.0
1/13/2011 12:22	10.2	36.3	23.4	894	435	-0.3	46,056	47.0	16.0
1/13/2011 12:23	10.2	36.3	23.4	894	435	-0.4	46,119	47.0	16.0
1/13/2011 12:24	10.2	36.4	23.4	894	435	-0.4	46,119	47.0	16.0
1/13/2011 12:25	10.2	36.4	23.4	894	435	-0.4	46,161	47.0	16.0
1/13/2011 12:26	10.2	36.5	23.4	894	435	-0.4	46,140	47.0	16.0
1/13/2011 12:27	10.1	36.5	23.4	894	435	-0.4	46,119	47.0	16.0
1/13/2011 12:28	10.2	36.6	23.4	894	435	-0.4	46,119	47.0	16.0
1/13/2011 12:29	10.2	36.6	23.4	894	435	-0.4	46,140	48.0	16.0
1/13/2011 12:30	10.2	36.6	23.4	894	435	-0.4	46,161	48.0	16.0
1/13/2011 12:31	10.2	36.7	23.4	894	435	-0.4	46,182	48.0	16.0

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Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
•	LLGF	LLGF	Shale	Ϋ́	Heat	Ā	Flue Gas	CO Concentration	,
Parameter	Feed	Feed Line	Feed ·	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	шdб	isd	tph	Ļ	Ļ	in. H ₂ O	wet sofm	mdd	% vol.
Date / Time			,						
1/13/2011 12:32	10.2	36.7	23.4	894	435	-0.4	46,098	47.0	16.0
1/13/2011 12:33	10.2	36.8	23.4	894	435	-0.4	46,077	47.0	16.0
1/13/2011 12:34	10.2	36.8	23.4	894	435	-0.4	46,098	47.0	16.0
1/13/2011 12:35	10.2	36.9	23.4	894	435	-0.4	46,119	47.0	16.0
1/13/2011 12:36	10.2	36.9	23.4	894	435	-0.4	46,056	47.0	16.0
1/13/2011 12:37	10.2	36.9	23.4	894	435	-0.4	46,077	47.0	16.0
1/13/2011 12:38	10.2	36.9	23.4	894	435	-0.4	46,098	47.0	16.0
1/13/2011 12:39	10.2	36.9	23.4	894	435	-0.4	46,119	47.0	16.0
1/13/2011 12:40	10.2	36.9	23.4	895	435	-0.5	46,077.	47.0	16.0
1/13/2011 12:41	10.2	36.9	23.4	895	435	-0.4	46,098	47.0	16.0
	10.2	36.9	23.4	895	435	-0.4	46,035	47.0	16.0
1/13/2011 12:43	10.2	36.9	23.4	895	435	-0.4	46,056	47.0	16.0
1/13/2011 12:44	10.2	36.9	23.4	895	435	-0.4	46,035	47.0	16.0
1/13/2011 12:45	10.2	36.9	23.4	895	435	-0.4	45,993	47.0	16.0
1/13/2011 12:46	10.2	36.9	23.4	895	435	-0.4	46,077	47.0	16.0
1/13/2011 12:47	10.2	36.9	23.4	895	435	-0.4	46,098	47.0	16.0
1/13/2011 12:48	10.2	36.9	23.4	895	.435	-0.4	46,224	47.0	16.0
1/13/2011 12:49	10.2	36.9	23.4	895	435	-0.4	46,308	47.0	16.0
	10.2	36.9	23.4	895	435	-0.4	46,392	47.0	16.0
1/13/2011 12:51	10.2	36.8	23.4	895	435	-0.4	46,434	47.0	16.0
1/13/2011 12:52	10.2	36.8	23.4	895	435	-0.4	46,476	47.0	16.0
1/13/2011 12:53	10.2	36.8	23.4	895	436	-0.4	46,392	47.0	16.0
1/13/2011 12:54	10.2	36.8	23.4	895	436	-0.4	46,266	47.0	16.0
1/13/2011 12:55	10.2	36.8	23.4	895	436	-0.5	46,287	47.0	16.0
1/13/2011 12:56	10.2	36.8	23.5	895	436	-0.4	46,266	47.0	16.0
	10.2	36.8	23.4	895	436	-0.4	46,287	47.0	16.0
1/13/2011 12:58	10.2	36.8	23.5	895	436	-0.4	46,287	46.0	16.0
1/13/2011 12:59	10.2	36.8	23.4	895	436	-0.4	46,287	46.0	16.0
1/13/2011 13:00	10.2	36.8	23.4	895	436	-0.4	46,308	46.0	16.0
1/13/2011 13:01	10.2	36.8	23.4	895	436	-0.4	46,308	46.0	16.0
1/13/2011 13:02	10.2	36.8	23.4	895	436	-0.4	46,329	46.0	16.0
1/13/2011 13:03	10.2	36.8	23.4	895	436	-0.4	46,350	46.0	16.0

January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	Kil	Heat	Į.	Flue Gas	CO Concentration	-
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units Date / Time	mdb	psi	tph	Ļ	냐	in. H ₂ O	wet sofm	mdd	% vol.
1/13/2011 13:04	10.2	36.8	23.4	895	436	-0.4	46,350	46.0	16.0
1/13/2011 13:05	10.2	36.8	23.4	895	436	-0.4	46,329	46.0	16.0
	10.2	36.8	23.4	895	436	-0.4	46,266	46.0	16.0
	10.2	36.8	23.4	895	436	-0.4	46,308	46.0	16.0
1/13/2011 13:08	10.2	36.8	23.4	895	436	-0.3	46,287	46.0	16.0
1/13/2011 13:09	10.2	36.8	23.4	895	436	-0.4	46,224	46.0	16.0
1/13/2011 13:10	10.2	36.8	23.4	895	436	-0.4	46,245	47.0	16.0
1/13/2011 13:11	10.2	36.8	23.4	895	436	-0.4	46,224	46.0	16.0
1/13/2011 13:12	10.2	36.8	23.4	895	436	-0.4	46,203	46.0	16.0
1/13/2011 13:13	10.2	36.8	23.4	894	436	-0.3	46,140	47.0	16.0
1/13/2011 13:14	10.3	36.8	23.4	895	436	-0.4	46,077	47.0	16.0
	· 10.3	36.8	23.4	895	436	-0.4	46,014	46.0	16.0
	10.3	36.8	23.4	895	436	-0.4	45,993	46.0	16.0
1/13/2011 13:17	10.3	36.8	23.4	895	436	-0.4	46,056	46.0	16.0
	10.3	36.8	23.4	895	436	-0.4	46,077	46.0	16.0
1/13/2011 13:19	10.3	36.8	23.4	895	436	-0.4	46,098	46.0	16.0
1/13/2011 13:20	10.3	36.8	23.5	895	436	-0.4	46,119	46.0	16.0
	10.3	36.8	23.5	895	436	-0.4	46,119	46.0	16.0
	10.3	36.8	23.5	895	436	-0.3	46,056	46.0	16.0
	10.3	36.8	23.5	895	436	-0.4	46,014	46.0	16.0
	10.3	36.8	23.5	895	436	-0.4	46,035	46.0	16.0
	10.3	36.8	23.5	895	436	-0.3	45,993	46.0	16.0
1/13/2011 13:26	10.3	36.8	23.5	895	436	-0.4	45,993	46.0	16.0
	10.3	36.8	23.5	895	436	-0.4	46,077	46.0	16.0
	10.3	36.8	23.5	894	436	-0.4	46,098	46.0	16.0
	10.3	36.8	23.5	894	436	-0.4	46,161	46.0	16.0
1/13/2011 13:30	10.4	36.8	23.5	894	436	-0.4	46,182	46.0	16.0
	10.4	36.8	23.5	894	436	4.0-	46,224	46.0	16.0
	10.4	36.8	23.5	894	436	-0.4	46,287	46.0	16.0
	10.4	36.8	23.5	894	436	-0.4	46,329	46.0	16.0
	10.4	36.8	23.5	894	436	-0.4	46,371	46.0	16.0
1/13/2011 13:35	10.4	36.8	23.5	894	436	-0.4	46,371	46.0	16.0

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Norlite Corporation - Cohoes, NY - MACT CPT 2010 January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30 Process and CEM Operating Parameters

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AO2-611 / F6-279		Oxygen	Concentration	% vol.		16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
XO7-400 / F6-187	CO Concentration	corrected to	7% O ₂	mdd		46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	47.0	47.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0
FT-5555	Flue Gas	Flow	Rate	wet scfm		46,413	46,455	46,434	46,392	46,518	46,497	46,497	46,434	46,434	46,413	46,329	46,371	46,287	46,161	46,014	45,972	45,888	45,867	45,972	45,930	45,930	45,972	45,993	45,993	46,077	46,140	46,119	46,077	46,098	46,119	46,119	46,098
DPT-2104	Ă	Hood	Pressure	in. H ₂ O		-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4 4.0-	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
TT-2403	Heat	Exchanger	Exit	Ļ		436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	436	.436	436
TT-2105	Kiln	Back-End	·Temp.	Ŀ.		894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894	894
AR-2401	Shale	Feed	Rate	tph	1	23.5	23.5	23.5	23.4	23.5	23.5	23.5	23.5	23.4	23.5	23.5	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4
PT-2302	LLGF	Feed Line	Pressure	isd		36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7
MM-2401	LLGF	Feed	Rate	mdg		10.4	10.4	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.4	10.4	10.4	10.4	10.4	10.4	10.4
Tag No.		Parameter		Units		- 1		1/13/2011 13:38	1/13/2011 13:39	1/13/2011 13:40	1/13/2011 13:41		1/13/2011 13:43	1/13/2011 13:44	1/13/2011 13:45	1/13/2011 13:46	1/13/2011 13:47	1/13/2011 13:48	1/13/2011 13:49	1/13/2011 13:50	1/13/2011 13:51	1/13/2011 13:52	1/13/2011 13:53	1/13/2011 13:54	1/13/2011 13:55			1/13/2011 13:58	1/13/2011 13:59	1/13/2011 14:00	1/13/2011 14:01	1/13/2011 14:02	1/13/2011 14:03	1/13/2011 14:04	1/13/2011 14:05	1/13/2011 14:06	1/13/2011 14:07

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Norlite Corporation - Cohoes, NY - MACT CPT 2010 January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30

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Tag No	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / E6-279
· ·	LLGF	LLGF	Shale	X E	Heat	X Fill	Flue Gas	CO Concentration	
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units Date / Time	шdв	isd	tph	Ļ	Ļ	in. H ₂ O	wet sofm	mdd	% vol.
1/13/2011 14:08	10.4	7 95	23.4	894	736	7 0	76 110	AR O	18.0
1/13/2011 14:09	10.4	36.7	23.4	894	436	t. 0-	46,119	46.0	16.0
1/13/2011 14:10	10.4	36.7	23.4	894	436	-0.4	46.119	46.0	16.0
	10.4	36.7	23.4	894	436	-0.3	46,182	46.0	16.0
1/13/2011 14:12	10.4	36.7	23.4	894	436	-0.4	46,266	46.0	16.0
1/13/2011 14:13	10.4	36.7	23.4	894	436	-0.4	46,287	46.0	16.0
1/13/2011 14:14	10.4	36.7	23.4	894	436	-0.3	46,266	46.0	16.0
1/13/2011 14:15	10.4	36.7	23.4	894	436	-0.3	46,203	46.0	16.0
1/13/2011 14:16	10.4	36.7	23.4	894	436	-0.3	46,224	46.0	16.0
1/13/2011 14:17	10.4	36.7	23.4	894	436	-0.4	46,182	46.0	16.0
1/13/2011 14:18	10.4	36.7	23.4	894	436	-0.3	46,119	46.0	16.0
1/13/2011 14:19	10.4	36.7	23.4	894	436	-0.4	46,077	46.0	16.0
	10.4	36.7	23.4	894	436	-0.3	46,077	46.0	16.0
	10.4	36.7	23.4	894	436	-0.3	46,056	46.0	16.0
	10.4	36.7	23.4	894	436	-0.3	46,056	46.0	16.0
	10.4	36.7	23.4	894	436	-0.3	46,056	46.0	16.0
	10.4	36.7	23.4	894	436	-0.3	46,077	46.0	16.0
	10.4	36.7	23.4	894	436	-0.3	46,098	46.0	16.0
	10.4	36.7	23.4	894	436	-0.3	46,119	46.0	16.0
1/13/2011 14:27	10.4	36.7	23.4	894	436	-0.3	46,035	46.0	16.0
1/13/2011 14:28	10.4	36.7	23.4	894	436	-0.3	46,035	46.0	16.0
	10.3	36.7	23.4	894	436	-0.3	45,930	46.0	16.0
	10.3	36.7	23.4	894	436	-0.3	45,930	46.0	16.0
	10.3	36.7	23.4	894	436	-0.3	45,888	46.0	16.0
	10.3	36.7	23.4	894	436	-0.3	45,804	47.0	16.0
1/13/2011 14:33	10.3	36.7	23.4	894	435	-0.2	45,699	47.0	16.0
1/13/2011 14:34	10.3	36.7	23.4	894	435	0.3	45,636	47.0	16.0
1/13/2011 14:35	10.3	36.7	23.4	894	435	-0.3	45,552	46.0	16.0
1/13/2011 14:36	10.3	36.7	23.4	894	435	-0.3	45,468	. 46.0	16.0
1/13/2011 14:37	10.3	36.7	23.4	894	435	-0.3	45,405	46.0	16.0
	10.3	36.7	23.4	894	435	-0.2	45,342	46.0	16.0
1/13/2011 14:39	10.3	36.7	23.4	894	435	-0.2	45,342	46.0	16.0

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January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30 Norlite Corporation - Cohoes, NY - MACT CPT 2010 Process and CEM Operating Parameters

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AO2-611 / F6-279		Oxygen	Concentration	% vol.		16.0	16.0	16.0	17.0	17.0	17.0	17.0	16.0	16.0	16.0	16.0	16.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
XO7-400 / F6-187	CO Concentration	corrected to	7% O ₂	mdd		46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	46.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
FT-5555	Flue Gas	Flow	Rate	wet scfm		45,216	45,174	45,195	45,195	45,174	45,132	45,216	45,195	45,153	45,132	45,111	45,111	45,069	45,048	44,901	44,838	44,775	44,649	44,607	44,523	44,376	44,250	44,250	44,250	44,292	44,313	44,292	44,250	44,250	44,166	44,124	44,061
DPT-2104	Kiin	Hood	Pressure	in. H ₂ O		-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	6.0	-0.2	-0.3	-0.2	-0.3	-0.2	-0.3	-0.3	-0.2	-0.3	-0.2	-0.3	-0.3	-0.2	-0.3	-0.2	-0.3	-0.3	- 0.3	-0.3	-0.3	-0.3	-0.4	-0.3	-0.3
TT-2403	Heat	Exchanger	Exit	Ļ		435	435	435	435	435	434	434	434	434	434	434	434	434	434	434	434	434	434	434	434	434	434	434	434	434	434	434	434	434	434	434	434
TT-2105	Kiin	Back-End	Temp.	ļ.		894	894	894	894	894	894	894	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895	895
AR-2401	Shale	Feed	Rate	tph		23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.5	23.5	23.5	23.5	23.5	23.5	23.5
PT-2302	LLGF	Feed Line	Pressure	isd		36.7	36.7	36.7	36.7	36.7	36.6	36.6	36.7	36.7	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6
MM-2401	LLGF	Feed	Rate	mdg		10.3	10.3	10.3	10.3	10.3	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
Tag No.		Parameter		Units	Date / Time	1/13/2011 14:40	1/13/2011 14:41	1/13/2011 14:42	1/13/2011 14:43	1/13/2011 14:44	1/13/2011 14:45	1/13/2011 14:46	1/13/2011 14:47				1/13/2011 14:51	1/13/2011 14:52	1/13/2011 14:53	1/13/2011 14:54	1/13/2011 14:55	1/13/2011 14:56	1/13/2011 14:57	1/13/2011 14:58	1/13/2011 14:59		,					1/13/2011 15:06	1/13/2011 15:07	1/13/2011 15:08	1/13/2011 15:09	1/13/2011 15:10	1/13/2011 15:11

January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	흜	Heat	뺿	Flue Gas	CO Concentration	,
Parameter	Feed	Feed Line	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	gpm	isd	tph	Ļ	₽,	in. H ₂ O	wet scfm	mdd	% vol.
Date / Time									
1/13/2011 15:12	10.4	36.6	23.5	895	434	-0.3	43,935	45.0	17.0
1/13/2011 15:13	10.4	36.6	23.5	895	434	-0.3	43,830	45.0	17.0
1/13/2011 15:14	10,4	36.6	23.5	895	434	-0.3	43,746	45.0	17.0
1/13/2011 15:15	10.4	36.6	23.5	895	434	-0.3	43,767	45.0	17.0
1/13/2011 15:16	10.4	36.6	23.5	895	434	-0.3	43,704	45.0	17.0
1/13/2011 15:17	10.4	36.6	23.5	895	434	-0.3	43,683	45.0	17.0
1/13/2011 15:18	10.4	36.6	23.5	895	434	-0.4	43,662	45.0	17.0
1/13/2011 15:19	10.4	36.6	23.5	895	434	-0.3	43,683	44.0	17.0
1/13/2011 15:20	10.5	36.6	23.5	895	434	-0.4	43,620	44.0	17.0
1/13/2011 15:21	10.5	36.6	23.5	895	434	-0.3	43,578	44.0	17.0
1/13/2011 15:22	10.5	36.6	23.5	895	435	-0.3	43,557	44.0	17.0
1/13/2011 15:23	10.5	36.6	23.5	895	435	-0.3	43,578	44.0	17.0
1/13/2011 15:24	10.5	36.6	23.5	895	435	-0.3	43,515	44.0	17.0
1/13/2011 15:25	10.5	36.6	23.5	895	435	-0.3	43,431	44.0	17.0
1/13/2011 15:26	10.5	36.6	23.5	895	435	-0.3	43,389	44.0	17.0
1/13/2011 15:27	10.5	36.6	23.5	895	435	-0.3	43,326	44.0	17.0
1/13/2011 15:28	10.5	36.6	23.5	968	435	-0.3	43,242	44.0	17.0
1/13/2011 15:29	10.5	36.6	23.5	895	435	-0.3	43,221	44.0	17.0
1/13/2011 15:30	10.5	36.6	23.5	895	435	-0.3	43,179	44.0	17.0
AVERAGE	10.3	36.6	23.4	894	435	-0.3	45,672	46.2	16.2
MINIMUM	10.1	35.3	23.4	894	434	-0.5	43,179	44.0	16.0
MAXIMUM	10.5	36.9	23.5	895	436	-0.2	46,518	48.0	17.0

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January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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DPT-4402	Ducon	Pressure	Drop	in. H ₂ O		2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	24
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm	1 017	150.5	150.5	150.5	150.5	150.5	150.4	150.4	150.4	150.4	150.4	150.4	150.4	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.4	150.4	150.4	150.4	150.4	150.4	150.4	150.4	150.4	150.4	150.4	150.4	150.4	150.4
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr	0 020	2/0.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
LT-102	Scrubber	Tank	Level	% II.	11	20.0	56.5	9.99	56.6	56.7	26.7	56.8	56.8	56.6	56.5	56.5	56.5	56.6	56.6	56.7	26.7	56.6	56.5	56.5	56.6	56.6	56.6	56.6	56.6	56.6	56.6	56.5	56.5	56.5	56.5	56.4	56.4	56.4
2509 A/B	Scrubber	Liquid	Æ	pH units	c	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
FT-2508	Scrubber	Blowdown	Rate	mdb	707	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.4	13.4	13.4	13.4	13.5	13.5	13.5	13.5	13.6	13.6	13.6	13.6	13.6	13.6	13.7	13.7	13.7	13.7	13.7	13.8	13.8	13.8	13.9	13.9	13.9	13.9
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdg	777	1/4.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0
DPT-2303	Venturi	Pressure	, Drop	in. H ₂ O	1.	0.0	6.4	6.4	6.4	6.4	6.5	6.5	6.4	6.4	6.4	6.5	6.5	6.5	6.5	6.4	6.4	6.4	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.5	6.4	6.4	6.5	6.5	6.5	6.5	6.4	6.4
TT-2404	Baghouse	Inlet	Temperature	ļ۲	Coc	383	383	383	383	384	384	384	384	384	384	384	384	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	386
Tag No.		Parameter		Units Date / Time	4/4/0044 0.40	1/11/2011 8:49	1/11/2011 8:50			1/11/2011 8:53	1/11/2011 8:54	1/11/2011 8:55	1/11/2011 8:56	1/11/2011 8:57	1/11/2011 8:58	1/11/2011 8:59	1/11/2011 9:00	1/11/2011 9:01	1/11/2011 9:02	1/11/2011 9:03	1/11/2011 9:04	1/11/2011 9:05	1/11/2011 9:06	1/11/2011 9:07	1/11/2011 9:08	1/11/2011 9:09	1/11/2011 9:10	1/11/2011 9:11	1/11/2011 9:12	1/11/2011 9:13	1/11/2011 9:14	1/11/2011 9:15	1/11/2011 9:16	1/11/2011 9:17	1/11/2011 9:18	1/11/2011 9:19	1/11/2011 9:20	1/11/2011 9:21

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January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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DPT-4402	Ducon	Pressure	Drop	in. H ₂ O		2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		150.5	150.5	150.5	150.5	150.5	150.5	150.4	150.4	150.4	150.4	150.4	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	
LT-102	Scrubber	Tank	Level	% Ht.		56.5	56.5	56.5	56.4	56.4	56.3	56.3	56.3	56.5	56.5	56.5	56.4	56.4	56.3	56.3	56.3	56.4	56.5	56.5	56.4	56.3	56.2	56.1	56.1	56.3	56.4	56.5	56.5	56.4	56.3	56.2	56.2	
2509 A/B	Scrubber	Liquid	표 전	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
FT-2508	Scrubber	Blowdown	Rate	mdg		13.9	14	14	14	14.1	14.1	14.1	14.2	14.2	14.2	14.3	14.3	14.3	14.4	14.4	14.4	14.5	14.5	14.5	14.6	14.6	14.6	14.7	14.7	14.7	14.8	14.8	14.8	14.8	14.9	14.9	14.9	
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdb		174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	
DPT-2303	Venturi	Pressure	Drop	in. H ₂ 0		6.5	6.5	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	
TT-2404	Baghouse	Inlet	Temperature	ŗ.		386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	385	385	385	385	385	
Tag No.		Parameter		Units	Date / Time	1/11/2011 9:22	1/11/2011 9:23	1/11/2011 9:24	1/11/2011 9:25	1/11/2011 9:26	1/11/2011 9:27	1/11/2011 9:28	1/11/2011 9:29	1/11/2011 9:30	1/11/2011 9:31	1/11/2011 9:32	1/11/2011 9:33	1/11/2011 9:34	1/11/2011 9:35	1/11/2011 9:36	1/11/2011 9:37	1/11/2011 9:38	1/11/2011 9:39	1/11/2011 9:40	1/11/2011 9:41	1/11/2011 9:42	1/11/2011 9:43	1/11/2011 9:44	1/11/2011 9:45	1/11/2011 9:46	1/11/2011 9:47	1/11/2011 9:48	1/11/2011 9:49	1/11/2011 9:50	1/11/2011 9:51	1/11/2011 9:52	1/11/2011 9:53	

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Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	핌	Level	Feed Rate	Fluid Flow Rate	Drop
Units Date / Time	Ļ	in. H ₂ O	mdb	шdб	pH units	% Ht	lb/hr	sofm	in. H ₂ O
1/11/2011 9:55	385	6.4	174.0	14.9	8.0	56.4	270.0	150.3	2.4
	385	6.4	174.0	14.9	8.0	56.5	270.0	150.3	2.4
1/11/2011 9:57	385	6.4	174.0	14.9	8.0	56.5	270.0	150.2	2.4
1/11/2011 9:58	385	6.4	174.0	14.9	8.0	56.6	270.0	. 150.2	2.4
1/11/2011 9:59	385	6.4	174.0	14.9	8.0	56.5	270.0	150.2	2.4
1/11/2011 10:00	385	6.4	174.0	14.9	8.0	56.3	270.0	150.2	2.4
1/11/2011 10:01	385	6.4	174.0	14.9	8.0	56.2	270.0	150.1	2.4
1/11/2011 10:02	385	6.4	174.0	14.8	8.0	56.3	270.0	150.1	2.4
1/11/2011 10:03	385	6.4	174.0	14.8	8.0	56.4	270.0	150.1	2.4
1/11/2011 10:04	385	6.4	174.0	14.8	8.0	56.5	270.0	150.1	2.4
1/11/2011 10:05	385	6.4	174.0	14.8	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:06	385	6.4	174.0	14.7	8.0	56.7	270.0	150.1	2.4
1/11/2011 10:07	385	6.4	174.0	14.7	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:08	385	6.4	174.0	14.7	8.0	56.5	270.0	150.1	2.4
1/11/2011 10:09	385	6.4	174.0	14.7	8.0	56.4	270.0	150.1	2.4
1/11/2011 10:10	385	6.4	174.0	14.6	8.0	56.3	270.0	150.1	2.4
1/11/2011 10:11	385	6.4	174.0	14.6	8.0	56.4	270.0	150.1	2.4
1/11/2011 10:12	385	6.4	174.0	14.6	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:13	385	6.4	174.0	14.6	8.0	56.7	270.0	150.1	2.4
1/11/2011 10:14	385	6.4	174.0	14.5	8.0	56.7	270.0	150.1	2.4
1/11/2011 10:15	385	6.4	174.0	14.5	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:16	385	6.4	174.0	14.5	8.0	56.6	270.0	150.1	2.4
	385	6.4	174.0	14.5	8.0	56.5	270.0	150.1	2.4
1/11/2011 10:18	385	6.4	174.0	14.4	8.0	56.4	270.0	150	2.4
1/11/2011 10:19	385	6.4	174.0	14.4	8.0	56.5	270.0	150	2.4
1/11/2011 10:20	385	6.4	174.0	14.4	8.0	56.5	270.0	150	2.4
1/11/2011 10:21	385	6.4	174.0	14.4	8.0	56.8	270.0	150	2.4
1/11/2011 10:22	385	6.4	174.0	14.4	8.0	56.7	270.0	150	2.4
1/11/2011 10:23	385	6.4	174.0	14.3	8.0	26.7	270.0	150	2.4
1/11/2011 10:24	385	6.4	174.0	14.3	8.0	56.6	270.0	150	2.4
1/11/2011 10:25	385	6.4	174.0	14.3	8.0	56.6	270.0	150	2.4
1/11/2011 10:26	385	6.4	174.0	14.3	8.0	56.6	270.0	150	2.4
1/11/2011 10:27	385	6.4	174.0	14.2	8.0	56.5	270.0	150	2.4

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January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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DPT-4402	Ducon	Pressure	Drop	in. H ₂ O		2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		150	150	150	150	150	150	150	150	150.1	150	150.1	150.1	150.1	150.1	150.1	150.1	150.1	150.1	150.1	150.1	150.1	150.1	150.2	150.2	150.2	150.2	150.2	150.2	150.2	150.2	150.2	150.2	150.2
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
LT-102	Scrubber	Tank	Level	% Ht.		56.5	56.7	56.6	56.6	56.6	56.5	56.5	56.5	56.5	56.6	56.6	56.6	56.6	9.99	56.6	9.99	56.6	56.5	56.5	56.5	9.99	56.6	56.6	56.6	56.7	56.5	56.5	56.5	56.6	56.6	56.7	56.7	26.7
2509 A/B	Scrubber	Liquid	표	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
FT-2508	Scrubber	Blowdown	Rate	mdb		14.2	14.2	14.2	14.1	14.1	14.1	14.1	14	14	14	14	13.9	13.9	13.9	13.9	13.9	13.8	13.8	13.8	13.8	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.6	13.6	13.6	13.6	13.6
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdß		174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.5	6.4	6.4	6.4	6.4	6.5	6.5	6.4	6.4	6.4	6.4	6.5	6.5	6.4	6.4	6.4
TT-2404	Baghouse	Inlet	Temperature	ት -		385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	386	386	386
Tag No.		Parameter		Units	Date / Time	1/11/2011 10:28	1/11/2011 10:29			1/11/2011 10:32	1/11/2011 10:33	1/11/2011 10:34	1/11/2011 10:35	1/11/2011 10:36	1/11/2011 10:37	1/11/2011 10:38	1/11/2011 10:39	1/11/2011 10:40	1/11/2011 10:41	1/11/2011 10:42	1/11/2011 10:43	1/11/2011 10:44	1/11/2011 10:45	1/11/2011 10:46	1/11/2011 10:47	1/11/2011 10:48	1/11/2011 10:49	1/11/2011 10:50	1/11/2011 10:51	1/11/2011 10:52	1/11/2011 10:53	1/11/2011 10:54		1/11/2011 10:56	1/11/2011 10:57	1/11/2011 10:58	1/11/2011 10:59	1/11/2011 11:00

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DPT-4402	Ducon ,	Pressure	Drop	in. H ₂ O		2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		150.2	150.3	150.3	150.3	150.2	150.2	150.2	150.2	150.2	150.2	150.2	150.2	150.2	150.2	150.2	150.2	150.2	150.2	150.2	150.3	150.3	150.2	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
LT-102	Scrubber	Tank	Level	.∺ %		56.8	56.6	56.5	56.5	56.6	56.6	56.6	56.6	56.7	26.7	56.6	56.6	56.6	56.6	56.7	26.7	56.7	56.7	56.6	56.6	56.6	56.6	56.6	9.99	56.6	56.6	56.6	56.7	26.7	56.7	56.7	56.6	56.6
2509 A/B	Scrubber	Liquid	Ħ	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
FT-2508	Scrubber	Blowdown	Rate	mdb		13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	udb		174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		6.5	6.4	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.4	6.4	6.5	6.5	6.5	6.5	6.4	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
TT-2404	Baghouse	Inlet	Temperature	۴		386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386
Tag No.		Parameter		Units	Date / Time	1/11/2011 11:01	1/11/2011 11:02	1/11/2011 11:03	1/11/2011 11:04	1/11/2011 11:05	1/11/2011 11:06	1/11/2011 11:07	1/11/2011 11:08	1/11/2011 11:09	1/11/2011 11:10	1/11/2011 11:11	1/11/2011 11:12	1/11/2011 11:13	1/11/2011 11:14	1/11/2011 11:15	1/11/2011 11:16	1/11/2011 11:17	1/11/2011 11:18	1/11/2011 11:19	1/11/2011 11:20	1/11/2011 11:21	1/11/2011 11:22	1/11/2011 11:23	1/11/2011 11:24	1/11/2011 11:25	1/11/2011 11:26	1/11/2011 11:27	1/11/2011 11:28	1/11/2011 11:29	1/11/2011 11:30	1/11/2011 11:31	1/11/2011 11:32	1/11/2011 11:33

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January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

DPT-2303 FT-2507 A/B	FT-2507 A/B	<u> </u>	FT-2	208	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	돐	Leve	Feed Rate	Fluid Flow Rate	Drop
	¥.	in. H ₂ O	mdb	mdg	pH units	∓%	lb/hr	scfm	in. H ₂ O
1/11/2011 11:34	386	6.5	174.0	13.8	8.0	56.6	270.0	150.3	2.4
//1/2011 11:35	386	6.5	174.0	13.8	8.0	56.6	270.0	150.2	2.4
1/11/2011 11:36	386	6.5	174.0	13.8	8.0	56.7	270.0	150.2	2.4
1/11/2011 11:37	386	6.5	174.0	13.8	8.0	56.7	270.0	150.3	2.4
/11/2011 11:38	386	6.5	174.0	13.8	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:39	386	6.5	174.0	13.8	8.0	26.7	270.0	150.3	2.4
1/11/2011 11:40	386	6.4	174.0	13.9	8.0	56.7	270.0	150.3	2.4
1.41	386	6.5	174.0	13.9	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:42	386	6.5	174.0	13.9	8.0	26.7	270.0	150.3	2.4
1/11/2011 11:43	386	6.5	174.0	13.9	8.0	56.6	270.0	150.3	2.4
44.	386	6.5	174.0	13.9	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:45	386	6.5	174.0	13.9	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:46	386	6.5	174.0	13.9	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:47	386	6.5	174.0	13.9	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:48	386	6.5	174.0	13.9	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:49	386	6.5	174.0	13.9	8.0	9.99	270.0	150.3	2.4
1/11/2011 11:50	386	6.5	174.0	13.9	8.0	56.6	270.0	150.3	2.4
	385	6.4	174.0	14.0	8.0	56.5	270.0	150.2	2.4
	383	6.4	174.0	13.4	8.0	56.1	270.0	150.0	2.3
	386	6.5	174.0	14.9	8.0	56.8	270.0	150.5	2.4

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January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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DPT-4402	Ducon	Pressure	Drop	in. H ₂ O		2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		151.6	151.6	151.6	151.6	151.6	151.7	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.5
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
LT-102	Scrubber	Tank	Level	% Ht.		56.5	56.6	56.6	56.6	56.5	56.5	56.4	56.4	56.4	56.6	56.6	56.6	56.5	56.5	56.5	56.5	56.4	56.6	56.6	56.6	56.6	9.99	56.5	56.5	56.5	56.5	56.5	56.6	56.5	56.5	56.5	56.5	56.5
2509 A/B	Scrubber	Liquid	핊	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
FT-2508	Scrubber	Blowdown	Rate	mdb		13.8	13.8	13.8	13.8	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.6	13.6	13.6	13.6	13.6	13.5	13.5	13.5	13.5	13.5	13.5	13.4	13.4	13.4	13.4	13.4
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdb		174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	6.0	6.0	. 0.9	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	0.9	0.0
TT-2404	Baghouse	Inlet	Temperature	ĥ		387	387	387	387	387	387	387	387	387	387	387	387	387	387	387	387	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386
Tag No.		Parameter		Units		1/11/2011 12:35	1/11/2011 12:36	1/11/2011 12:37	1/11/2011 12:38	1/11/2011 12:39	1/11/2011 12:40	1/11/2011 12:41	1/11/2011 12:42	1/11/2011 12:43	1/11/2011 12:44	1/11/2011 12:45	1/11/2011 12:46	1/11/2011 12:47	1/11/2011 12:48	1/11/2011 12:49	1/11/2011 12:50	1/11/2011 12:51	1/11/2011 12:52	1/11/2011 12:53	1/11/2011 12:54	1/11/2011 12:55	1/11/2011 12:56	1/11/2011 12:57	1/11/2011 12:58	1/11/2011 12:59	1/11/2011 13:00	1/11/2011 13:01	1/11/2011 13:02	1/11/2011 13:03	1/11/2011 13:04	1/11/2011 13:05	1/11/2011 13:06	1/11/2011 13:07

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January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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DPT-4402	Ducon	Pressure	Drop	in. H ₂ O	i	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		151.4	151.4	151.4	151.3	151.2	151.1	151.1	151.0	150.9	150.9	150.8	150.8	150.7	150.6	150.5	150.5	150.4	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.4	150.4	150.4	150.4	150.4	150.4	150.4	150.4
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
LT-102	Scrubber	Tank	Level	∓ ¥		56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.6	56.6	56.5	56.5	56.5	56.5	56.5	56.5	56.5	56.6	56.6	56.5	56.5	56.5	56.5	56.5	56.6	56.6	56.6	56.6	56.6	56.5	56.5
2509 A/B	Scrubber	Liquid	Hd.	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
FT-2508	Scrubber	Blowdown	Rate	mdß		13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.7	13.7	13.7	13.7
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdb	·	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		0.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
TT-2404	Baghouse	Inlet	Temperature	۴		386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	386	387	387	387	387	387
Tag No.		Parameter		Units	Date / Time	1/11/2011 13:08	1/11/2011 13:09	1/11/2011 13:10	1/11/2011 13:11	1/11/2011 13:12	1/11/2011 13:13	1/11/2011 13:14	1/11/2011 13:15	1/11/2011 13:16	1/11/2011 13:17	1/11/2011 13:18	1/11/2011 13:19	1/11/2011 13:20	1/11/2011 13:21	1/11/2011 13:22	1/11/2011 13:23	1/11/2011 13:24	1/11/2011 13:25	1/11/2011 13:26	1/11/2011 13:27	1/11/2011 13:28	1/11/2011 13:29	1/11/2011 13:30	1/11/2011 13:31	1/11/2011 13:32	1/11/2011 13:33	1/11/2011 13:34	1/11/2011 13:35	1/11/2011 13:36	1/11/2011 13:37	1/11/2011 13:38		1/11/2011 13:40

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January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

3 <u>= 9</u> 0	Scrubber Recirculation Flow Rate gpm 174.0 174.0	Scrubber	Scrubber	Scrubber	20.	201 / 201 / 101 - 10	701
	circulation low Rate gpm 174.0 174.0	Blowdown					Ducon
	low Rate gpm 174.0 174.0	200	Liquid	Tank	Lime	Lime Carrier	Pressure
	gpm 174.0 174.0	Rate	五	Level	Feed Rate	Fluid Flow Rate	Drop
	174.0 174.0 174.0	mdb	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
	174.0 174.0	13.7	8.0	56.5	270.0	150.4	2.5
	174.0	13.7	8.0	56.6	270.0	150.4	2.5
		13.7	8.0	29.3	270.0	150.4	2.5
	174.0	13.7	8.0	56.7	270.0	150.4	2.5
	174.0	13.7	8.0	56.7	270.0	150.4	2.5
	174.0	13.7	8.0	56.6	270.0	150.5	2.5
	174.0	13.7	8.0	56.6	270.0	150.5	2.5
	174.0	13.8	8.0	56.5	270.0	150.5	2.5
	174.0	13.8	8.0	56.5	270.0	150.5	2.5
	174.0	13.8	8.0	56.5	270.0	150.5	2.5
6.0	174.0	13.9	8.0	26.7	270.0	150.5	2.5
	174.0	13.9	8.0	56.7	270.0	150.5	2.5
	174.0	13.9	8.0	56.6	270.0	150.5	2.5
	174.0	13.9	8.0	9.99	270.0	150.4	2.5
	174.0	14.0	8.0	56.5	270.0	150.4	2.5
	174.0	14.0	8.0	56.4	270.0	150.4	2.5
	174.0	14.0	8.0	56.4	270.0	150.4	2.5
	174.0	14.0	8.0	56.4	270.0	150.4	2.5
6.0	174.0	14.1	8.0	56.5	270.0	150.5	2.5
	174.0	14.1	8.0	26.7	270.0	150.5	2.5
	174.0	14.1	8.0	56.8	270.0	150.5	2.5
	174.0	14.1	8.0	26.7	270.0	150.5	2.5
	174.0	14.2	8.0	9.99	270.0	150.5	2.5
	174.0	14.2	8.0	56.5	270.0	150.5	2.5
6.0	174.0	14.2	8.0	56.4	270.0	150.5	2.5
6.0	174.0	14.2	8.0	56.4	270.0	150.5	2.5
	174.0	14.2	8.0	56.5	270.0	150.5	2.5
	174.0	14.2	8.0	56.6	270.0	150.5	2.5
	174.0	14.2	8.0	56.8	270.0	150.5	2.5
6.0	174.0	14.2	8.0	56.7	270.0	150.5	2.5
	174.0	14.2	8.0	56.6	. 270.0	150.5	2.5
	174.0	14.2	8.0	56.5	270.0	150.5	2.5
	174.0	14.2	8.0	56.4	270.0	150.5	2.5

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January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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DPT-4402	Ducon .	Pressure	Drop	in. H ₂ O		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.6	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7	150.7
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
LT-102	Scrubber	Tank	Level	% Ht.		56.4	56.5	9.99	56.7	56.7	56.6	56.5	56.4	56.3	56.5	56.6	56.7	56.7	56.6	56.5	56.4	56.4	56.5	56.6	56.7	56.8	56.7	56.6	56.5	56.4	56.4	56.6	56.7	56.7	56.6	56.5	56.5	56.4
2509 A/B	Scrubber	Liquid	Ή	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
FT-2508	Scrubber	Blowdown	Rate	mdb		14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	13.9	13.9	13.9	13.9
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdb		174.0	174.0	174.0	174.0	174.0	174.0	174.0	173.0	173.0	174.0	174.0	174.0	174.0	174.0	173.0	173.0	173.0	173.0	174.0	174.0	174.0	174.0	173.0	173.0	173.0	. 173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		6.0	6.0	0.9	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	0.9	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
11-2404	Baghouse	Inlet	Temperature	ት		393	393	394	394	394	394	394	395	395	395	395	395	395	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	396	395
Tag No.		Parameter		Units		1/11/2011 14:14	1/11/2011 14:15	1/11/2011 14:16	1/11/2011 14:17	1/11/2011 14:18	1/11/2011 14:19	1/11/2011 14:20	1/11/2011 14:21	1/11/2011 14:22	1/11/2011 14:23	1/11/2011 14:24	1/11/2011 14:25	1/11/2011 14:26	1/11/2011 14:27	1/11/2011 14:28	1/11/2011 14:29		1/11/2011 14:31		1/11/2011 14:33	1/11/2011 14:34	1/11/2011 14:35	1/11/2011 14:36	1/11/2011 14:37	1/11/2011 14:38	1/11/2011 14:39	1/11/2011 14:40	1/11/2011 14:41	1/11/2011 14:42	1/11/2011 14:43	1/11/2011 14:44	1/11/2011 14:45	1/11/2011 14:46

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January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

			_			_		_	_	_	_	_	_	_	_	_	_			_	_	_		_	_	_	_				_	_					_	_
DPT-4402	Ducon	Pressure	Drop	in. H ₂ 0		2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		150.7	150.7	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.8	150.9	150.9	150.9	150.9	150.8	150.8	150.8	150.8	150.8	150.8
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
LT-102	Scrubber	Tank	Level	% Ht.		56.4	56.5	56.7	56.7	56.7	56.6	56.5	56.4	56.4	56.5	56.7	56.7	56.7	56.6	56.4	56.3	56.4	56.5	56.6	56.7	56.6	56.5	56.4	56.4	56.4	56.5	56.7	56.7	56.7	56.6	56.5	56.5	56.4
2509 A/B	Scrubber	Liquid	된	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
FT-2508	Scrubber	Blowdown	Rate	mdb		13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdg		173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
TT-2404	Baghouse	Inlet	Temperature	Ļ		395	395	395	395	395	395	395	395	395	395	395	395	395	395	395	395	395	395	395	394	394	394	394	394	394	394	394	394	394	394	394	394	394
Tag No.	, .	Parameter		Units	Date / IIme	1/11/2011 14:47	1/11/2011 14:48	1/11/2011 14:49	1/11/2011 14:50	1/11/2011 14:51	1/11/2011 14:52	1/11/2011 14:53	1/11/2011 14:54	1/11/2011 14:55	1/11/2011 14:56	1/11/2011 14:57	1/11/2011 14:58	1/11/2011 14:59	1/11/2011 15:00	1/11/2011 15:01	1/11/2011 15:02	1/11/2011 15:03	1/11/2011 15:04	1/11/2011 15:05	1/11/2011 15:06	1/11/2011 15:07	1/11/2011 15:08	1/11/2011 15:09	1/11/2011 15:10	1/11/2011 15:11	1/11/2011 15:12	1/11/2011 15:13	1/11/2011 15:14	1/11/2011 15:15	1/11/2011 15:16	1/11/2011 15:17	1/11/2011 15:18	1/11/2011 15:19

January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

DPT-2303	╙	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
Venturi Scrubber Scrubber		Scruk	pper	Scrubber	Scrubber			Ducon
Pressure Recirculation Blowdown		Blowdo	uw.	Liquid	Tank	Lime	Lime Carrier	Pressure
Drop Flow Rate Rate		Rate	<i>a</i> :	Hd	Level	Feed Rate	Fluid Flow Rate	Drop
in. H ₂ O gpm gpm		gpm		pH units	∓ %	lb/hr	scfm	in. H ₂ O
						,		
6.2 173.0 13.8		13.8	_	8.0	56.5	270.0	150.8	2.6
6.2 173.0 13.8		13.8	_	8.0	56.7	270.0	150.8	2.6
6.2 173.0 13.8		13.8	~	0.8	299	270.0	150.8	2.6
6.2 173.0 13.8		13.8		8.0	9.99	270.0	150.8	2.6
6.2 173.0 13.8		13.8		8.0	56.5	270.0	150.8	2.6
6.2 173.0 13.8		13.8		8.0	56.5	270.0	150.8	2.6
6.2 173.0 13.8		13.8		8.0	56.4	270.0	150.8	2.6
6.2 173.0 13.8		13.8		8.0	56.3	270.0	150.8	2.6
6.2 173.0 13.8		13.8	-	8.0	56.4	270.0	150.9	2.6
6.2 173.0 13.8		13.8		8.0	56.6	270.0	150.9	2.6
6.2 173.0 13.8		13.8		8.0	26.7	270.0	150.9	2.6
6.2 173.0 13.8		13.8		8.0	56.6	270.0	150.9	2.6
6.2 173.0 13.8		13.8		8.0	56.5	270.0	150.9	2.6
6.2 173.0 13.8		13.8		8.0	56.4	270.0	150.9	2.6
6.3 173.0 13.8		13.8		8.0	56.3	270.0	150.9	2.6
6.3 173.0 13.8		13.8	_	8.0	56.3	270.0	150.9	2.6
6.2 173.0 13.8		13.8		8.0	56.4	270.0	150.9	2.6
6.3 173.0 13.8		13.8		8.Û	56.5	270.0	150.9	2.6
6.1 173.6 13.8		13.8		8.0	56.5	270.0	150.8	2.5
5.9 173.0 13.4		13.4		8.0	56.3	270.0	150.3	2.4
6.3 174.0 14.2		14.2		8.0	56.8	270.0	151.7	2.6

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January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

					_	_		_	_	_	_					_	_	_	_	_	_	_	_	_	_	_					_				_		
DPT-4402 Ducon	Pressure	Drop	in. H ₂ O		2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
VF-101 / 102 / 103	Lime Carrier	Fluid Flow Rate	scfm	1	150.0	150.1	150.2	150.3	150.4	150.5	150.5	150.6	150.8	150.8	151.0	151.1	151.2	151.3	151.4	151.4	151.5	151.5	151.5	151.5	151.5	151.5	151.5	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6
AC-101 / 102 / 103	Lime	Feed Rate	lb/hr	0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	. 270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
LT-102 Scrubber	Tank	Level	% Ht.	1	56.5	56.5	56.5	56.4	56.3	56.2	56.2	56.3	56.4	56.6	56.6	56.5	56.4	56.3	56.3	56.4	56.5	56.6	56.7	56.7	56.5	56.4	56.3	56.3	56.4	56.5	56.6	56.6	56.7	56.5	56.4	56.2	56.3
2509 A/B Scrubber	Liquid	표	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
FT-2508 Scrubber	Blowdown	Rate	mdb		14.7	14.6	14.5	14.4	14.4	14.3	14.2	14.2	14.2	14.2	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.1	14.1
FT-2507 A/B Scrubber	Recirculation	Flow Rate	mdb		171.0	171.0	171.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0
DPT-2303 Venturi	Pressure	Drop	in. H ₂ O		5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.9	5.9	5.9	5.9	5.9	5.9
TT-2404	Inlet	Temperature	.		380	380	380	380	380	380	380	380	380	380	380	380	380	380	380	381	381	381	381	381	381	381	381	382	382	382	382	382	382	382	382	382	382
Tag No.	Parameter		Units	Date / Hitte	1/12/2011 9:03	1/12/2011 9:04	1/12/2011 9:05	1/12/2011 9:06	1/12/2011 9:07	1/12/2011 9:08	1/12/2011 9:09	1/12/2011 9:10	1/12/2011 9:11	1/12/2011 9:12	1/12/2011 9:13	1/12/2011 9:14	1/12/2011 9:15	1/12/2011 9:16	1/12/2011 9:17	1/12/2011 9:18	1/12/2011 9:19	1/12/2011 9:20	1/12/2011 9:21	1/12/2011 9:22	1/12/2011 9:23	1/12/2011 9:24	1/12/2011 9:25	1/12/2011 9:26	1/12/2011 9:27	1/12/2011 9:28	1/12/2011 9:29	1/12/2011 9:30	1/12/2011 9:31	1/12/2011 9:32	1/12/2011 9:33	1/12/2011 9:34	1/12/2011 9:35

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January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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DPT-4402	Ducon	Pressure	Drop	in. H ₂ O		2.4	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	. 151.6	151.5	151.5	151.5	151.5	151.5	. 151.5	151.5	151.5	151.4	151.4	151.4	151.4	151.4	151.4	151.4	151.4
FT-2507 A/B FT-2508 2509 A/B LT-102 AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	. 270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
LT-102	Scrubber	Tank	Level	% Ht.		56.3	56.4	56.5	56.6	56.6	56.5	56.3	56.2	56.3	56.3	56.4	56.5	56.5	56.6	56.4	56.3	56.3	56.3	56.4	56.4	56.5	56.5	56.4	56.2	56.2	56.3	56.3	56.4	56.4	56.4	56.4	56.4	56.5
2509 A/B	Scrubber	Liquid	표	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
FT-2508	Scrubber	Blowdown	Rate	шфб		14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.8	13.8	13.8	13.8
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdb		171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	. 172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	6.0	0.9	0.9	6.0	6.0	0.0	6.0	6.0	6.0	6.0	6.0	6.0	0.9	0.9	6.0	6.0	6.0
TT-2404	Baghouse	Inlet	Temperature	Ļ		382	382	382	382	382	382	382	382	382	382	382	382	382	382	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381
Tag No.)	Parameter		- Units	Date / Time	1/12/2011 9:36	1/12/2011 9:37	1/12/2011 9:38	1/12/2011 9:39	1/12/2011 9:40	1/12/2011 9:41	1/12/2011 9:42	1/12/2011 9:43	1/12/2011 9:44	1/12/2011 9:45	1/12/2011 9:46	1/12/2011 9:47	1/12/2011 9:48	1/12/2011 9:49	1/12/2011 9:50	1/12/2011 9:51	1/12/2011 9:52	1/12/2011 9:53	1/12/2011 9:54	1/12/2011 9:55	1/12/2011 9:56	1/12/2011 9:57	1/12/2011 9:58	1/12/2011 9:59	1/12/2011 10:00	1/12/2011 10:01	1/12/2011 10:02	1/12/2011 10:03	1/12/2011 10:04	1/12/2011 10:05	1/12/2011 10:06	1/12/2011 10:07	1/12/2011 10:08

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January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VE-101 / 102 / 103	DPT-4402
)	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber	-		Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	చ	Level	Feed Rate	Fluid Flow Rate	Drop
Units	ļ.	in. H ₂ O	mdg	mdb	pH units	% H;	lb/hr	scfm	in. H ₂ O
Date / Time									
1/12/2011 10:09	381	6.0	172.0	13.8	8.0	56.6	270.0	151.4	2.5
1/12/2011 10:10	381	6.0	172.0	13.8	8.0	56.6	270.0	151.4	2.5
1/12/2011 10:11	381	6.0	172.0	13.8	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:12	381	6.0	172.0	13.8	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:13	381	6.0	172.0	13.8	8.0	56.5	270.0	151.4	2.5
	381	6.0	172.0	13.8	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:15	381	6.0	172.0	13.8	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:16	380	0.9	172.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:17	380	6.0	172.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:18	380	6.0	172.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:19	380	0.9	172.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:20	380	6.0	172.0	13.7	8.0	56.5	270.0	151.4	2.5
	380	0.9	172.0	13.7	8.0	56.5	270.0	151.4	2.5
	380	6.0	172.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:23	380	6.0	172.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:24	380	0.9	171.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:25	380	0.9	171.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:26	380	6.0	171.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:27	380	6.0	171.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:28	380	6.0	171.0	13.7	8.0	56.5	270.0	151.4	2.5
	380	6.0	171.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:30	380	6.0	171.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:31	380	6.0	171.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:32	380	6.0	171.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:33	380	0.9	171.0	13.7	8.0	56.4	270.0	151.4	2.5 /
1/12/2011 10:34	380	6.0	171.0	13.7	8.0	56.6	270.0	151.4	2.5
	380	6.0	171.0	13.7	8.0	9.99	270.0	151.4	2.5
1 3	380	6.0	171.0	13.7	8.0	56.6	270.0	151.4	2.5
	380	6.0	171.0	13.7	8.0	56.6	270.0	151.4	2.5
1/12/2011 10:38	380	6.0	171.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:39	380	6.0	171.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:40	380	0.9	171.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:41	380	0.9	171.0	13.7	8.0	56.4	270.0	151.4	2.5

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January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

<u> </u>			_		-		_	_						_																						$\overline{}$	- 1	
DPT-4402	Ducon	Pressuré	Drop	in. H ₂ O		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		151.4	151.4	151.4	151.4	151.4	151.4	151.4	151.4	151.4	151.5	151.5	151.5	151.5	151.5	151.5	151.5	151.5	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6	151.6
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
LT-102 AC-1	Scrubber	Tank	Level	% ⊞		56.5	26.7	9.99	9.99	56.6	56.5	56.5	56.4	56.5	56.7	56.7	56.7	56.7	56.6	56.6	56.6	56.5	56.7	26.7	56.7	56.6	56.6	56.5	56.5	56.5	56.6	26.7	56.6	56.6	56.6	56.5	56.5	56.5
2509 A/B	Scrubber	Liquid	표	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
FT-2508 2509 A/	Scrubber	Blowdown	Rate	mdb		13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdb		171.0	171.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	168.0	168.0	168.0
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		6.0	6.0	6.0	0.9	6.0	6.0	0.9	0.9	6.0	0.9	0.9	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	0.9	6.0	6.0	6.0	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.0
TT-2404	Baghouse	Inlet	Temperature	Ļ		380	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381
Tag No.		Parameter		Units	Date / Time	1/12/2011 10:42	1/12/2011 10:43	1/12/2011 10:44	1/12/2011 10:45	1/12/2011 10:46	1/12/2011 10:47	1/12/2011 10:48	1/12/2011 10:49	1/12/2011 10:50	1/12/2011 10:51	1/12/2011 10:52	1/12/2011 10:53	1/12/2011 10:54	1/12/2011 10:55	1/12/2011 10:56	1/12/2011 10:57	1/12/2011 10:58	1/12/2011 10:59	1/12/2011 11:00	1/12/2011 11:01	1/12/2011 11:02	1/12/2011 11:03	1/12/2011 11:04	1/12/2011 11:05	1/12/2011 11:06	1/12/2011 11:07	1/12/2011 11:08	1/12/2011 11:09	1/12/2011 11:10	1/12/2011 11:11	1/12/2011 11:12	1/12/2011 11:13	1/12/2011 11:14

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January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

	TT-2404	בחבר דמת	ET 2507 A/R	ET 2508	ET 2507 A/B	1T-402 AC-41	AC-104 / 102 / 103	VE_404 / 409 / 403	DDT_4402
	Bacholise	Venturi	Scribber	Scribber	Scribber	Scribber			Direct
	inlet	Pressure	Recirculation	Blowdown	Liguid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	Ha	Level	Feed Rate	Fluid Flow Rate	Drop
		in. H ₂ O	Eab	m db	pH units		lb/hr	scfm	in. H ₂ O
		1	5	5					v
5	381	6.1	168.0	13.7	8.0	9.99	270.0	151.6	2.5
11:16	381	6.1	168.0	13.7	8.0	56.8	270.0	151.6	2.5
_	381	6.1	168.0	13.7	8.0	29.2	270.0	151.6	2.5
1/12/2011 11:18	381	6.1	168.0	13.7	8.0	26.7	270.0	151.6	2.5 /
1/12/2011 11:19	381	6.1	168.0	13.7	8.0	56.6	270.0	151.6	2.5
11:20	381	6.1	168.0	13.7	8.0	56.5	270.0	151.6	2.5
11:21	381	6.1	168.0	13.7	8.0	56.5	270.0	151.6	2.6
11:22	381	6.1	168.0	13.7	8.0	56.4	270.0	151.6	2.6
11:23	381	6.1	168.0	13.7	8.0	56.6	270.0	151.6	2.6
11:24	381	6.1	169.0	13.7	8.0	56.7	270.0	151.6	2.6
1/12/2011 11:25	381	6.1	169.0	13.7	8.0	56.8	270.0	151.6	2.6
11:26	381	6.1	169.0	13.7	8.0	56.7	270.0	151.6	2.6
_	381	6.1	169.0	13.7	8.0	26.7	270.0	151.6	2.6
11:28	381	6.1	169.0	13.7	8.0	56.6	270.0	151.6	2.6
11:29	381	6.1	169.0	13.7	8.0	56.6	270.0	151.5	2.6
11:30	381	6.1	169.0	13.7	8.0	56.5	270.0	151,5	2.6
11:31	381	6.1	169.0	13.7	8.0	56.6	270.0	151.5	2.6
11:32	381	6.1	169.0	13.7	8.0	56.7	270.0	151.5	2.6
11:33	381	6.1	169.0	13.7	8.0	8.99	270.0	151.5	2.6
11:34	381	6.1	169.0	13.7	8.0	56.7	270.0	151.5	2.6
11:35	381	6.1	169.0	13.7	8.0	299	270.0	151.5	5.6
11:36	381	6.1	169.0	13.7	8.0	56.6	270.0	151.5	2.6
11:37	381	6.1	169.0	13.7	8.0	56.6	270.0	151.5	2.6
11:38	381	6.1	170.0	13.7	8.0	56.5	270.0	151.4	2.6
11:39	381	6.1	170.0	13.7	8.0	56.4	270.0	151.4	2.6
11:40	381	6.1	170.0	13.7	8.0	56.6	270.0	151.4	2.6
11:41	381	6.1	170.0	13.7	8.0	26.7	270.0	151.4	2.6
11:42	381	6.1	170.0	13.7	8.0	56.7	270.0	151.4	2.6
11:43	381	6.2	170.0	13.7	8.0	. 56.6	270.0	151.4	2.6
11:44	380	6.2	170.0	13.7	8.0	56.6	270.0	151.4	2.6
11:45	380	6.2	170.0	13.7	8.0	56.5	270.0	151.4	2.6
11:46	380	6.2	170.0	13.7	8.0	56.4	270.0	151.5	2.6
1/12/2011 11:47	380	6.2	171.0	13.7	8.0	56.4	270.0	151.5	2.6

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Norlite Corporation - Cohoes, NY - MACT CPT 2010 January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04 Air Pollution Control System (APCS) Operating Parameters

			45000	y		۳/ حام / ر	ation control oform (m. co) operating a training		
Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	핊	Level	Feed Rate	Fluid Flow Rate	Drop
Units	۴	in. H ₂ O	mdb	mdg	pH units	H: %	lb/hr	scfm	in. H ₂ O
Date / Time									
1/12/2011 11:48	380	6.2	171.0	13.7	8.0	56.5	270.0	151.5	2.6
1/12/2011 11:49	380	6.2	171.0	13.7	8.0	56.7	270.0	151.5	2.6
1/12/2011 11:50	380	6.2	171.0	13.7	8.0	26.7	270.0	151.4	2.6
1/12/2011 11:51	380	6.2	171.0	13.7	8.0	56.6	270.0	151.5	2.6
1/12/2011 11:52	380	6.2	171.0	13.7	8.0	56.5	270.0	151.5	2.6
1/12/2011 11:53	380	6.2	171.0	13.7	8.0	56.4	270.0	151.5	2.6
1/12/2011 11:54	380	6.3	171.0	13.7	8.0	56.4	270.0	151.5	2.6
1/12/2011 11:55	380	6.3	171.0	13.7	8.0	56.4	270.0	151.5	2.6
1/12/2011 11:56	380	6.3	171.0	13.7	8.0	56.5	270.0	151.5	2.6
1/12/2011 11:57	380	6.3	172.0	13.7	8.0	56.6	270.0	151.5	2.6
1/12/2011 11:58	380	6.3	172.0	13.7	8.0	26.7	270.0	151.5	2.6 /
1/12/2011 11:59	380	6.3	172.0	13.7	8.0	56.6	270.0	151.5	2.6
1/12/2011 12:00	380	6.3	172.0	13.7	8.0	56.6	270.0	151.5	2.6
1/12/2011 12:01	380	6.3	172.0	13.7	8.0	56.5	270.0	151.5	. 2.6
1/12/2011 12:02	380	6.3	172.0	13.7	8.0	56.3	270.0	151.5	2.6
1/12/2011 12:03	088	6.3	172.0	13.7	8.0	56.4	270.0	151.5	2.6
1/12/2011 12:04	380	6.3	172.0	13.7	8.0	56.5	270.0	151.5	2.6
				1					
AVERAGE	381	6.0	170.5	13.9	8.0	56.5	270.0	151.4	2.5
MINIMUM	380	5.8	168.0	13.7	8.0	56.2	270.0	150.0	2.4
MAXIMUM	382	6.3	172.0	14.7	8.0	56.8	270.0	151.6	2.6

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January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

T 14	7070	COCC TOO	0, 4 5030 17	0030	3,0020	, + ·	204 / 400 / 400	17 404 / 400 / 400	7007
oo lad	11-2404	DF1-2303	L1-230/ A/B	0002-14	2308 A/D	701-17	AC-1017 1027 103	VF-101 / 102 / 103	DP1-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	핍	Level	Feed Rate	Fluid Flow Rate	Drop
Units	۴	in. H ₂ O	mdg	mdß	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time									
1/12/2011 13:33	380	8.4	169.0	13.8	8.0	56.8	270.0	152.9	3.7
1/12/2011 13:34	380	8.4	169.0	13.8	8.0	56.8	270.0	152.9	3.7
1/12/2011 13:35	380	8.4	169.0	13.9	8.0	56.9	270.0	152.9	3.7
1/12/2011 13:36	380	8.4	169.0	13.9	8.0	56.9	270.0	152.9	3.7
1/12/2011 13:37	380	8.4	169.0	13.9	8.0	27.0	270.0	152.9	3.7
	380	8.4	169.0	13.9	8.0	57.1	270.0	152.9	3.7
1/12/2011 13:39	380	8.4	169.0	13.9	8.0	57.2	270.0	152.9	3.7
1/12/2011 13:40	380	8.4	169.0	13.9	8.0	57.2	270.0	152.9	3.7
1/12/2011 13:41	380	8.4	169.0	13.9	8.0	57.1	270.0	152.8	3.7
1/12/2011 13:42	381	8.4	169.0	13.9	8.0	57.0	270.0	152.8	3.7
1/12/2011 13:43	381	8.4	169.0	13.9	8.0	57.0	270.0	152.8	3.7
1/12/2011 13:44	381	8.4	169.0	13.9	8.0	57.0	270.0	152.8	3.6
1/12/2011 13:45	381	8.4	169.0	13.9	8.0	57.0	270.0	152.8	3.6
1/12/2011 13:46	381	8.4	169.0	13.9	8.0	57.0	270.0	152.7	3.6
1/12/2011 13:47	381	8.4	169.0	13.9	8.0	56.8	270.0	152.7	3.6
1/12/2011 13:48	381	8.4	169.0	14.0	8.0	56.8	270.0	152.7	3.6
1/12/2011 13:49	381	8.4	169.0	14.0	8.0	56.9	270.0	152.7	3.6
1/12/2011 13:50	381	8.4	169.0	14.0	8.0	56.9	270.0	152.7	3.6
1/12/2011 13:51	381	8.4	169.0	14.0	8.0	57.0	270.0	152.7	3.6
	381	8.4	170.0	14.0	8.0	57.0	270.0	152.7	3.6
1/12/2011 13:53	381	8.4	170.0	14.0	8.0	57.1	270.0	152.7	3.6
	381	8.4	170.0	14.0	8.0	57.1	270.0	152.7	3.6
1/12/2011 13:55	381	8.4	170.0	14.0	8.0	57.2	270.0	152.7	3.6
1/12/2011 13:56	381	8.4	170.0	14.0	8.0	57.3	270.0	152.7	3.6 /
1/12/2011 13:57	381	8.4	170.0	14.0	8.0	57.3	270.0	152.7	3.6
1/12/2011 13:58	381	8.4	170.0	14.1	8.0	57.3	270.0	. 152.7	3.6
1/12/2011 13:59	381	8.4	170.0	14.1	8.0	57.4	270.0	152.7	3.6
1/12/2011 14:00	381	8.4	171.0	14.1	8.0	57.4	270.0	152.7	3.6
1 :	381	8.4	171.0	14.1	8.0	57.2	270.0	152.6	3.6
1/12/2011 14:02	381	8.4	171.0	14.1	8.0	57.1	270.0	152.6	3.6
1/12/2011 14:03	381	8.4	171.0	14.1	8.0	57.1	270.0	152.6	3.6
1/12/2011 14:04	381	8.4	171.0	14.1	8.0	57.1	270.0	152.6	3.6
1/12/2011 14:05	381	8.4	171.0	14.1	8.0	57.2	270.0	152.6	3.6

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January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

<u></u>					7	_	_	-	1	_	1			_			_									-			_					_	-	_	
DPT-4402	Ducon	Pressure	Drop	in. H ₂ 0	3.6	3.0	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6 ,	3.6	3.6
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm	150 B	152.6	152.6	152.6	152.6	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr	0.07.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
LT-102 AC-1	Scrubber	Tank	Level	.∺ ₩	57.2	57.2	57.2	57.3	57.3	57.3	57.4	57.4	57.4	57.5	57.4	57.2	.57.2	57.2	57.2	57.2	57.2	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.1	57.0	57.0	57.0
2509 A/B	Scrubber	Liquid	Æ	pH units	C	0 00	0 8	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
FT-2508	Scrubber	Blowdown	Rate	шфб	14.1	14.1	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdg	1710	171.0	1710	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	174.0	175.0	175.0	175.0	175.0	175.0	175.0
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O	να	84	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
TT-2404	Baghouse	Inlet	Temperature	î.	384	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381
Tag No.		Parameter		Units Date / Time	4/12/2011 14:0B	1/12/2011 14:07	1/12/2011 14:08	1/12/2011 14:09	1/12/2011 14:10	1/12/2011 14:11	1/12/2011 14:12	1/12/2011 14:13	1/12/2011 14:14	1/12/2011 14:15	1/12/2011 14:16	1/12/2011 14:17	1/12/2011 14:18	1/12/2011 14:19	1/12/2011 14:20	1/12/2011 14:21	1/12/2011 14:22	1/12/2011 14:23	1/12/2011 14:24	1/12/2011 14:25	1/12/2011 14:26	1/12/2011 14:27	1/12/2011 14:28		1/12/2011 14:30	1/12/2011 14:31	1/12/2011 14:32	1/12/2011 14:33	1/12/2011 14:34	1/12/2011 14:35	1/12/2011 14:36	1/12/2011 14:37	1/12/2011 14:38

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January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

<u></u>						_			_	_	_	-	_	,	_	_	_		-							_				_					_	_		=
DPT-4402	Ducon	Pressure	Drop	in. H ₂ O		3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	38.
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.5	152.6	152.6	152.6	152.6	152.6	152.6	152.6	152.6	152.6	152.6	152.6	152.6	152.6	152.6	152.6	1526
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
LT-102	Scrubber	Tank	Level	% Ht.		57.0	57.0	56.9	56.9	56.9	56.9	56.8	56.8	57.0	57.0	57.0	56.9	56.9	56.9	56.8	56.8	56.8	56.7	26.7	56.6	56.6	56.6	26.7	56.9	6.99	56.8	56.8	56.8	26.7	56.7	56.6	9.99	56 A
2509 A/B	Scrubber	Liquid	품	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
FT-2508	Scrubber	Blowdown	Rate	шdб		14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdb		175.0	175.0	175.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0	176.0
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
TT-2404	Baghouse	Inlet	Temperature	ŗ		381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381	381
Tag No.		Parameter		Units	Date / Time	1/12/2011 14:39	1/12/2011 14:40	1/12/2011 14:41	1/12/2011 14:42	1/12/2011 14:43	1/12/2011 14:44	1/12/2011 14:45	1/12/2011 14:46	1/12/2011 14:47	1/12/2011 14:48	1/12/2011 14:49	1/12/2011 14:50	1/12/2011 14:51	1/12/2011 14:52	1/12/2011 14:53	1/12/2011 14:54	1/12/2011 14:55	1/12/2011 14:56	1/12/2011 14:57	1/12/2011 14:58	1/12/2011 14:59	1/12/2011 15:00	1/12/2011 15:01	1/12/2011 15:02	1/12/2011 15:03	1/12/2011 15:04	1/12/2011 15:05	1/12/2011 15:06	1/12/2011 15:07	1/12/2011 15:08	1/12/2011 15:09	1/12/2011 15:10	1/12/2011 15:11

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January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

ON SOT	TT 2404	DDT 2203	ET 2607 A/B	ET JEOR	a/ V 003C	1 100	ET 2507 A/B ET 2508 2500 A/B 17 402 A/C 404 1402 403	VE 404 (409 (409	DDT 4403
, ,	Bachouse	Venturi	Scribber	Scrubber	Scribber	Scribber	201.120	201720110	7 H-1-12
1000000	ragilouse 1710+	Control	Coirculation	Columbaci	ocidooci ianii	House Jack	-	-	
Parameter		Pressure	Recirculation	Browdown		ank	. Lime	Lime Carrier	Pressure
	emperature	gor	Flow Kate	Kate	Hd	Level	Feed Kate	Fluid Flow Rate	Drop
Units Date / Time	Ļ	in. H ₂ O	mdb	шdб	pH units	% #	lb/hr	scfm	in. H ₂ O
1/12/2011 15:12	381	8.5	176.0	14.3	8.0	56.5	270.0	152.7	3.6
1/12/2011 15:13	381	8.5	176.0	14.3	8.0	56.5	270.0	152.7	3.6
1/12/2011 15:14	381	8.5	176.0	14.3	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:15	381	8.5	176.0	14.3	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:16	381	8.5	176.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:17	381	8.5	176.0	14.3	8.0	56.8	270.0	152.6	3.6
	381	8.5	175.0	14.3	8.0	56.8	270.0	152.7	3.6
1/12/2011 15:19	381	8.5	175.0	14.3	8.0	56.8	270.0	152.7	3.6
1/12/2011 15:20	381	8.5	175.0	14.3	8.0	26.7	270.0	152.6	3.6
1/12/2011 15:21	381	8.5	175.0	14.3	8.0	56.7	270.0	152.6	3.6
1/12/2011 15:22	381	8.5	175.0	14.3	8.0	56.7	270.0	152.7	3.6
1/12/2011 15:23	381	8.5	175.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:24	381	8.5	175.0	14.3	8.0	9.99	270.0	152.6	3.6
	381	8.5	175.0	14.3	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:26	381	8.5	175.0	14.3	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:27	381	8.5	175.0	14.3	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:28	381	8.5	175.0	14.3	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:29	381	8.5	175.0	14.3	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:30	381	8.5	175.0	14.3	8.0	9.99	270.0	152.6	3.6
1/12/2011 15:31	381	8.5	175.0	14.3	8.0	56.8	270.0	152.6	3.6
1/12/2011 15:32	381	8.5	175.0	14.3	8.0	56.8	270.0	152.6	3.6
1/12/2011 15:33	381	8.5	175.0	14.3	8.0	29.7	270.0	152.6	3.6
1/12/2011 15:34	381	8.5	175.0	14.3	8.0	56.7	270.0	152.6	3.6
1/12/2011 15:35	381	8.5	175.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:36	381	8.5	175.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:37	381	8.5	175.0	14.3	8.0	56,5	270.0	152.6	3.6
1/12/2011 15:38	381	8.5	175.0	14.3	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:39	381	8.5	175.0	14.3	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:40	380	8.5	175.0	14.3	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:41	380	8.5	175.0	14.3	8.0	56.4	270.0	152.7	3.6
1/12/2011 15:42	380	8.5	175.0	14.3	8.0	56.3	270.0	152.7	3.6
1/12/2011 15:43	380	8.5	175.0	14.3	8.0	56.3	270.0	152.7	3.6
1/12/2011 15:44	380	8.5	175.0	14.3	8.0	56.3	270.0	152.7	3.6

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January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

No.	YUY TT	DDT 2203	ET 2507 A/P	ET 2508	9500 A/B	1 1 102	AC 404 / 402 / 403	VE 404 / 409 / 403	DPT 4402
- ag	1047-1-1	2002	7 1057	0007-1-0	2000	-1.7	201 1201 101 101	2017201-12	701
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber		•	Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	Hd	Level	Feed Rate	Fluid Flow Rate	Drop
Units	Ļ	in. H ₂ 0	mdb	mdg	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time									
1/12/2011 15:45	380	8.5	175.0	14.3	8.0	56.4	270.0	152.7	3.6
1/12/2011 15:46	380	8.5	175.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:47	380	8.5	175.0	14.3	8.0	56.5	. 270.0	152.6	3.6
1/12/2011 15:48	380	8.5	175.0	14.3	8.0	56.5	270.0	152.7	3.6
1/12/2011 15:49	380	8.5	175.0	14.3	8.0	56.5	270.0	152.7	3.6
1/12/2011 15:50	380	8.5	175.0	14.4	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:51	380	8.5	175.0	14.4	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:52	380	8.5	175.0	14.4	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:53	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:54	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:55	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:56	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:57	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 15:58	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 15:59	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:00	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 16:01	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:02	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:03	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 16:04	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 16:05	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 16:06	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:07	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:08	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:09	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:10	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:11	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:12	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:13	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:14	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:15	380	8.5	175.0	14.4	8.0	56.3	270.0	152.7	3.6
1/12/2011 16:16	380	8.5	175.0	14.4	8.0	56.3	270.0	152.7	3.6
1/12/2011 16:17	380	8.5	175.0	14.4	 0.8 	56.3	270.0	152.7	3.6

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January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	핆	Level	Feed Rate	Fluid Flow Rate	Drop
Units	Ļ	in. H ₂ O	mdg	mdb	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time									
1/12/2011 16:18	380	8.5	175.0	14.4	8.0	56.3	270.0	152.7	3.6
1/12/2011 16:19	380	8.5	175.0	14.4	8.0	56.3	270.0	152.7	3.6
1/12/2011 16:20	381	8.5	175.0	14.4	8.0	56.3	270.0	152.7	3.6
1/12/2011 16:21	381	8.5	175.0	14.4	8.0	56.3	270.0	152.7	3.6
1/12/2011 16:22	381	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:23	381	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 16:24	381	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:25	381	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 16:26	381	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 16:27	381	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:28	381	8.5	175.0	14.4	8.0	56.5	270.0	152.7	3.6
1/12/2011 16:29	381	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:30	381	8.5	175.0	14.4	8.0	56.2	270.0	152.7	3.6
1/12/2011 16:31	381	8.5	175.0	14.4	8.0	56.2	270.0	152.7	3.6
1/12/2011 16:32	381	8.5	175.0	14.4	8.0	56.2	270.0	152.6	3.6
1/12/2011 16:33	381	8.5	175.0	14.4	8.0	56.3	270.0	152.6	3.6
1/12/2011 16:34	381	8.5	175.0	14.4	8.0	56.3	270.0	152.6	3.6
1/12/2011 16:35	381	8.5	175.0	14.4	8.0	56.3	270.0	152.6	3.6
AVERAGE	381	8.5	173.9	14.3	8.0	56.8	270.0	152.6	3.6
MINIMOM	380	8.4	169.0	13.8	8.0	56.2	270.0	152.5	3.6
MAXIMUM	381	8.5	176.0	14.4	8.0	57.5	270.0	152.9	3.7

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January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

DPT-4402	Ducon	Pressure	Drop	in. H ₂ O		3.6	3.6	3.6	3.6	3.6	3.6	3.6 /	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		149.1	149.1	149.0	149.0	149.0	149.0	149.0	149.0	149.0	149.0	149.0	149.0	149.0	149.0	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0
LT-102	Scrubber	Tank	Level	% Ht.		56.4	56.4	56.4	56.4	56.4	56.4	56.3	56.3	56.3	56.3	56.3	56.4	56.5	56.5	56.5	56.5	56.5	56.6	56.6	56.6	56.4	56.3	56.2	56.2	56.2	56.3	56.5	56.5	56.5	56.5	56.6	56.6	299
2509 A/B	Scrubber	Liquid	풉	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
FT-2508	Scrubber	Blowdown	Rate	mdg		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdg		172.0	172.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0	171.0
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.5	8.5
TT-2404	Baghouse	Inlet	Temperature	Ļ		381	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	383	383	383	383	383	. 383	383	383	383	383	383	383	384	384	384	384	384
Tag No.		Parameter		Units	Date / Ime	1/13/2011 8:33	1/13/2011 8:34	1/13/2011 8:35	1/13/2011 8:36	1/13/2011 8:37	1/13/2011 8:38	1/13/2011 8:39	1/13/2011 8:40	1/13/2011 8:41	1/13/2011 8:42	1/13/2011 8:43	1/13/2011 8:44	1/13/2011 8:45	1/13/2011 8:46	1/13/2011 8:47	1/13/2011 8:48	1/13/2011 8:49	1/13/2011 8:50	1/13/2011 8:51	1/13/2011 8:52	1/13/2011 8:53	1/13/2011 8:54	1/13/2011 8:55	1/13/2011 8:56	1/13/2011 8:57	1/13/2011 8:58	1/13/2011 8:59	1/13/2011 9:00	1/13/2011 9:01	1/13/2011 9:02	1/13/2011 9:03	1/13/2011 9:04	1/13/2011 9:05

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January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Tag No	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	8/8 603C	1 T-102	AC-101 / 102 / 103	VE-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	표	Level	Feed Rate	Fluid Flow Rate	Drop
	፟ኍ	in. H ₂ O	mdb	gpm	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time		ı							
1/13/2011 9:06	384	8.5	171.0	14.0	0.8	56.8	270.0	148.9	3.6
1/13/2011 9:07	384	8.5	171.0	14.0	8.0	56.7	270.0	148.9	3.6
1/13/2011 9:08	384	8.5	171.0	14.0	8.0	56.6	270.0	148.9	3.6
1/13/2011 9:09	384	8.5	171.0	14.0	8.0	56.5	270.0	148.9	3.6
1/13/2011 9:10	385	8.5	171.0	14.0	8.0	56.5	270.0	148.9	3.7
1/13/2011 9:11	385	8.5	171.0	14.0	8.0	56.5	270.0	148.9	3.7
1/13/2011 9:12	385	8.5	171.0	14.0	8.0	56.5	270.0	148.9	3.7
1/13/2011 9:13	385	8.5	171.0	14.0	8.0	56.6	270.0	148.9	3.7
1/13/2011 9:14	385	8.5	171.0	14.0	8.0	56.7	270.0	148.9	3.7
1/13/2011 9:15	385	8.5	171.0	14.0	8.0	26.7	270.0	148.9	3.7
9:16	385	8.5	171.0	14.0	8.0	56.8	270.0	148.9	3.7
9:17	385	8.5	171.0	14.0	8.0	56.8	270.0	148.9	3.7
9:18	385	8.5	171.0	14.0	8.0	56.8	270.0	148.9	3.7
9:19	385	8.5	171.0	14.0	8.0	56.9	270.0	148.9	3.7
1/13/2011 9:20	385	8.6	171.0	14.0	8.0	57.0	270.0	148.9	3.7
1/13/2011 9:21	385	8.6	171.0	14.0	8.0	57.1	270.0	148.9	3.7
9:22	385	8.6	171.0	14.0	8.0	57.0	270.0	148.9	3.7
9:23	385	8.6	171.0	14.0	8.0	57.0	270.0	148.9	3.7
9:24	385	9.8	171.0	14.0	8.0	56.9	270.0	148.9	3.7
9:25	385	8.6	171.0	14.0	8.0	56.9	270.0	148.9	3.7
9:26	385	8.6	171.0	14.0	8.0	56.8	270.0	148.9	3.7
9:27	385	8.6	171.0	14.0	8.0	56.8	270.0	148.9	3.7
9:28	385	8.6	171.0	14.0	8.0	56.7	270.0	148.9	3.7
1/13/2011 9:29	385	8.6	171.0	14.0	8.0	-56.6	270.0	148.9	3.7
9:30	385	8.6	171.0	14.0	8.0	56.6	270.0	148.9	3.7
9:31	385	8.7	171.0	14.0	8.0	56.6	270.0	148.9	3.7
9:32	385	8.7	170.0	14.0	8.0	26.7	270.0	148.9	3.7
9:33	385	.8.7	170.0	14.0	8.0	56.7	270.0	148.9.	3.7
9:34	385	8.7	170.0	14.0	8.0	56.8	270.0	148.9	3.7
1/13/2011 9:35	385	8.7	170.0	14.0	8.0	56.9	270.0	148.9	3.7
1/13/2011 9:36	385	8.7	170.0	14.0	8.0	57.0	270.0	148.9	3.7
1/13/2011 9:37	385	8.7	170.0	14.0	8.0	56.9	270.0	148.9	3.7
1/13/2011 9:38	385	8.7	170.0	0.41	8.0	56.8	270.0	148.9	3.7

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January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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DPT-4402	Ducon	Pressure	Drop	in. H ₂ O		2.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		148.9	148.9	148.9	148.9	148.9	148.9	148.9	148.9	149.0	149.0	149.0	149.0	149.0	149.0	149.0	149.0	149.0	149.0	149.0	149.0	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	. 0.072	270.0	270.0	270.0	270.0	270.0	
LT-102	Scrubber	Tank	Level	% H;		56.8	56.7	56.7	56.7	299	56.5	56.5	56.5	56.5	9.99	26.7	56.7	2.99	56.8	56.8	56.9	56.9	56.9	56.9	56.8	56.6	56.5	56.5	56.6	56.6	293	26.7	56.7	299	56.8	56.8	
2509 A/B	Scrubber	Liquid	됩	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
FT-2508	Scrubber	Blowdown	Rate	gpm		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdß		170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	
TT-2404	Baghouse	inlet	Temperature	۴		385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	384	
Tag No.		Parameter		Units	Date / Ime	1/13/2011 9:39	1/13/2011 9:40	1/13/2011 9:41	1/13/2011 9:42	1/13/2011 9:43	1/13/2011 9:44	1/13/2011 9:45	1/13/2011 9:46	1/13/2011 9:47	1/13/2011 9:48	1/13/2011 9:49	1/13/2011 9:50	1/13/2011 9:51	1/13/2011 9:52	1/13/2011 9:53	1/13/2011 9:54	1/13/2011 9:55	1/13/2011 9:56	1/13/2011 9:57	1/13/2011 9:58	1/13/2011 9:59	1/13/2011 10:00	1/13/2011 10:01	1/13/2011 10:02	1/13/2011 10:03	1/13/2011 10:04	1/13/2011 10:05	1/13/2011 10:06	1/13/2011 10:07	1/13/2011 10:08	1/13/2011 10:09	

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January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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DPT-4402	Ducon	Pressure	Drop	in. H ₂ O		3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	ď
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.1	149.0	149.0	149.0	149.0	149.0	149.1	149.1	149.1	149.0	149.0	149.0	149.0	149.0	149.0	149.0	149.0	149.0	149.0	170.0
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	0.076
LT-102	Scrubber	Tank	Level	% Ht.		56.9	56.8	56.7	56.7	26.7	56.7	56.7	56.7	56.7	56.8	56.8	56.8	56.8	56.8	56.9	56.9	56.9	56.9	299	56.7	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.9	56.9	56.9	56.9	0 88
2509 A/B	Scrubber	Liquid	五	bH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	0 0
FT-2508	Scrubber	Blowdown	Rate	mdg		14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	110
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdb		170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	1700
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	000
TT-2404	Baghouse	Inlet	Temperature	Ļ		384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	385
Tag No.		Parameter		Units	Date / Time	1/13/2011 10:12	1/13/2011 10:13	1/13/2011 10:14	1/13/2011 10:15	1/13/2011 10:16	1/13/2011 10:17	1/13/2011 10:18	1/13/2011 10:19	1/13/2011 10:20	1/13/2011 10:21	1/13/2011 10:22	1/13/2011 10:23	1/13/2011 10:24	1/13/2011 10:25	1/13/2011 10:26	1/13/2011 10:27	1/13/2011 10:28	1/13/2011 10:29	1/13/2011 10:30	1/13/2011 10:31	1/13/2011 10:32	1/13/2011 10:33	1/13/2011 10:34	1/13/2011 10:35	1/13/2011 10:36	1/13/2011 10:37	1/13/2011 10:38	1/13/2011 10:39	1/13/2011 10:40	1/13/2011 10:41	1/13/2011 10:42	1/13/2011 10:43	1/13/2011 10:44

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January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Tag No	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	1 T-102	AC-101 / 102 / 103	VE-101 / 102 / 103	DPT-4402
•	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	표	Level	Feed Rate	Fluid Flow Rate	Drop
Units	Ļ	in. H ₂ O	mdg	шdб	pH units	% H:	lb/hr	scfm	in. H ₂ O
Date / Time									
1/13/2011 10:45	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:46	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:47	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:48	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:49	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:50	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:51	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:52	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:53	385	8.8	170.0	14.0	8.0	57.0	270.0	148.9	3.8
1/13/2011 10:54	385	8.8	170.0	14.0	8.0	57.0	270.0	148.9	3.8
	385	8.8	170.0	14.0	8.0	57.0	270.0	148.9	3.8
	385	8.8	170.0	14.0	8.0	57.0	270.0	148.9	3.8
1/13/2011 10:57	385	8.8	170.0	14.0	8.0	56.9	270.0	148.9	3.8
1/13/2011 10:58	385	8.8	170.0	13.9	8.0	56.9	270.0	148.9	3.8
1/13/2011 10:59	385	8.8	170.0	13.9	8.0	56.9	270.0	148.9	3.8
1/13/2011 11:00	385	8.8	170.0	13.9	8.0	57.0	270.0	148.9	3.8
	385	8.8	170.0	13.9	8.0	57.0	270.0	148.9	3.8
1/13/2011 11:02	385	8.8	170.0	13.9	8.0	57.0	270.0	148.9	3.8
	385	8.8	170.0	13.9	8.0	57.0	270.0	148.9	3.8
1/13/2011 11:04	385	8.8	170.0	13.9	8.0	57.0	270.0	148.9	3.8
1/13/2011 11:05	385	8.8	170.0	13.9	8.0	57.0	270.0	148.9	3.8
1/13/2011 11:06	385	8.8	170.0	13.9	8.0	56.9	270.0	148.9	3.8
1/13/2011 11:07	385	8.7	170.0	13.9	8.0	56.9	270.0	148.9	3.8
1/13/2011 11:08	385	8.8	170.0	13.9	8.0	56.9	270.0	148.9	3.8
1/13/2011 11:09	385	8.8	170.0	13.9	8.0	56.9	270.0	148.9	3.8
1/13/2011 11:10	385	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.8
	385	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.8
1/13/2011 11:12	385	8.8	170.0	13.9	8.0	56.8	270.0	148.9	3.8
1/13/2011 11:13	385	8.8	170.0	13.9	8.0	56.8	270.0	148.9	3.7
1/13/2011 11:14	386	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.7
1/13/2011 11:15	386	8.8	170.0	13.9	8.0	56.8	270.0	148.9	3.7
1/13/2011 11:16	386	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.7
1/13/2011 11:17	386	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.7

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January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	품	Level	Feed Rate	Fluid Flow Rate	Drop
Units	Ļ.	in. H ₂ O	mdg	mdg	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time									
1/13/2011 11:18	386	8.8	170.0	13.9	8.0	56.7	270.0	148.9	3.8
1/13/2011 11:19	386	8.7	170.0	13.9	8.0	56.7	270.0	148.9	3.7
1/13/2011 11:20	386	8.7	170.0	13.9	8.0	56.7	270.0	148.9	3.7
1/13/2011 11:21	386	8.7	170.0	13.9	8.0	26.7	270.0	148.9	3.7
1/13/2011 11:22	386	8.7	170.0	13.9	8.0	56.6	270.0	148.9	3.7
1/13/2011 11:23	386	8.7	170.0	13.9	8.0	56.6	270.0	148.9	3.7
/13/2011 11:24	386	8.7	170.0	13.9	8.0	56.6	270.0	148.9	3.7
1/13/2011 11:25	386	8.8	170.0	13.9	8.0	56.5	270.0	148.9	3.7
1/13/2011 11:26	386	8.8	170.0	13.9	8.0	56.5	270.0	148.9	3.7
1/13/2011 11:27	386	8.8	170.0	13.9	8.0	56.5	270.0	148.9	3.7
/13/2011 11:28	386	8.8	170.0	13.9	8.0	56.5	270.0	148.9	3.7
/13/2011 11:29	386	8.7	170.0	13.9	8.0	56.7	270.0	148.9	3.7
1/13/2011 11:30	386	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.7
1/13/2011 11:31	386	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.7
1/13/2011 11:32	386	8.7	170.0	13.9	8.0	56.8	270.0	148.8	3.7
1/13/2011 11:33	386	8.7	170.0	13.9	8.0	56.8	270.0	148.8	3.7
/13/2011 11:34	386	8.7	170.0	13.9	8.0	56.8	270.0	148.8	3.7
1/13/2011 11:35	386	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.7
AVERAGE	384	8.7	170.3	14.0	8.0	56.7	270.0	149.0	3.7
MINIMUM	381	8.3	170.0	13.9	8.0	56.2	270.0	148.8	3.6
MAXIMUM	386	8.8	172.0	14.0	8.0	57.1	270.0	149.1	3.8

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January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

		AIR POII	ution Conti	ol Syste	m (APC)	o) Opera	ilution control system (APCS) Operating Farameters	3	
Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	풉	Leve	Feed Rate	Fluid Flow Rate	Drop '
Units Dafe / Time	₽,	in. H ₂ O	mdb	mdg	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
1/13/2011 12:00	385	8.8	170.0	13.9	8.0	56.9	270.0	148.7	3.7
1/13/2011 12:01	385	8.8	170.0	13.9	8.0	56.8	270.0	148.7	3.7
1/13/2011 12:02	384	8.8	170.0	13.9	8.0	56.8	270.0	148.7	3.7
1/13/2011 12:03	384	8.8	170.0	13.9	8.0	56.7	270.0	148.7	3.7
1/13/2011 12:04	384	8.8	170.0	13.9	8.0	56.7	270.0	148.7	3.7
1/13/2011 12:05		8.8	170.0	13.9	8.0	56.6	270.0	148.7	3.7
		8.8	170.0	13.9	8.0	56.5	270.0	148.7	3.7
	384	8.8	170.0	13.9	8.0	56.5	270.0	148.8	3.7
1/13/2011 12:08	384	8.8	170.0	13.9	8.0	56.4	270.0	148.8	3.7
1/13/2011 12:09	384	8.8	170.0	13.9	8.0	56.3	270.0	148.8	3.7
1/13/2011 12:10	384	8.8	170.0	13.9	8.0	56.3	270.0	148.8	3.8
1/13/2011 12:11	384	8.8	170.0	13.9	8.0	56.5	270.0	148.8	3.8
1/13/2011 12:12	384	8.8	170.0	13.9	8.0	56.6	270.0	148.8	3.8
1/13/2011 12:13	384	8.8	170.0	13.9	8.0	56.7	270.0	148.8	3.8
1/13/2011 12:14	384	8.8	170.0	13.9	8.0	56.7	270.0	148.8	3.8
1/13/2011 12:15	384	8.8	170.0	13.9	8.0	56.7	270.0	148.8	3.8
	384	8.8	170.0	13.9	8.0	56.6	270.0	148.8	3.8
1/13/2011 12:17		8.8	170.0	13.9	8.0	56.5	270.0	148.8	3.8
1/13/2011 12:18	384	8.8	170.0	13.9	8.0	56.5	270.0	148.7	3.8
1/13/2011 12:19		8.8	170.0	13.9	8.0	56.4	270.0	148.7	3.8
1/13/2011 12:20	384	8.8	170.0	13.9	8.0	56,4	270.0	148.7	3.8
1/13/2011 12:21	384	8.8	170.0	13.9	8.0	56.3	270.0	148.7	3.8
1/13/2011 12:22	384	8.8	170.0	13.9	8.0	56.3	270.0	148.7	3.8
		8.8	170.0	13.9	8.0	56.2	270.0	148.7	3.8
		8.8	170.0	13.9	8.0	56.2	270.0	148.7	3.8
1/13/2011 12:25	384	8.8	170.0	13.9	8.0	56.3	270.0	148.7	. 3.8
1/13/2011 12:26	384	8.8	170.0	13.9	8.0	56.5	270.0	148.7	3.8
1/13/2011 12:27	384	8.8	170.0	13.9	8.0	56.6	270.0	148.7	3.8
- 1	384	8.8	170.0	13.9	8.0	56.7	270.0	148.7	3.7
	384	8.8	170.0	13.9	8.0	56.6	270.0	148.7	3.8
	384	8.8	170.0	13.9	8.0	56.6	270.0	148.7	3.8
1/13/2011 12:31	384	8.8	170.0	13.9	8.0	56.5	270.0	148.7	3.8
1/13/2011 12:32	384	8.8	170.0	13.9	8.0	56.4	270.0	148.7	3.8

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January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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DPT-4402	Ducon	Pressure	Drop	in. H ₂ O		3.8	3.8	3.8	3.8	3.8 ′	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	000
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		148.7	148.7	148.7	148.7	148.7	148.7	148.7	148.7	148.7	148.7	148.7	148.7	148.7	148.6	148.7	148.7	148.7	148.6	148.6	148.7	148.7	148.7	148.7	148.7	148.7	148.7	148.6	148.7	148.7	148.7	148.6	148.6	4400
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	0.020
LT-102 AC-1	Scrubber	Tank	Level	# # #		56.3	56.3	56.2	56.1	56.0	56.1	56.3	56.4	56.5	56.6	56.5	56.5	56.4	56.3	56.2	56.2	56.1	56.0	56.0	56.1	56.2	56.3	56.5	56.5	56.4	56.3	56.2	56.2	56.1	56.0	55.9	55.9	0.00
2509 A/B	Scrubber	Liquid	표	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	α
FT-2508	Scrubber	Blowdown	Rate	Вф		13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	0 77
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdb		170.0	170.0	170.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	α
TT-2404	Baghouse	inlet	Temperature	ĥ		384	. 384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384	384
Tag No	•	Parameter		Units	Date / Time	1/13/2011 12:33	1/13/2011 12:34	1/13/2011 12:35	1/13/2011 12:36	1/13/2011 12:37	1/13/2011 12:38	1/13/2011 12:39	1/13/2011 12:40	1/13/2011 12:41	1/13/2011 12:42	1/13/2011 12:43	1/13/2011 12:44	1/13/2011 12:45	1/13/2011 12:46	1/13/2011 12:47	1/13/2011 12:48	1/13/2011 12:49	1/13/2011 12:50	1/13/2011 12:51	1/13/2011 12:52	1/13/2011 12:53		1/13/2011 12:55	1/13/2011 12:56	1/13/2011 12:57	1/13/2011 12:58	1/13/2011 12:59	1/13/2011 13:00	1/13/2011 13:01	1/13/2011 13:02	1/13/2011 13:03	1/13/2011 13:04	4/13/2011 13:05

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January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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74400	DP1-4402	Ducon	Pressure	Drop	in. H ₂ 0		3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8 /	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.7	3.8	3.8	3.8	3.8	3.8	3.8	3.7	3.7	3.7	3.7	
VE 404 / 409 / 409	VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		148.6	148.6	148.6	148.6	148.6	148.6	148.6	148.6	148.6	148.6	148.6	148.6	148.6	148.6	148.6	148.7	148.6	148.7	148.6	148.6	148.6	148.6	148.6	148.6	148.7	148.7	148.7	148.7	148.7	148.7	148.7	148.7	1
ET 2507 A/D ET 2509 2500 A/D T 402 A/C 404 (402 (402)	AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	. 270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	270.0	
1 400	-102	Scrubber	Tank	Level	% II:		56.1	56.2	56.3	56.4	56.5	56.4	56.4	56.3	56.2	56.1	56.1	56.0	56.0	56.2	56.3	56.4	56.5	56.7	56.7	56.6	56.5	56.5	56.3	56.2	56.1	56.0	56.1	56.2	56.3	56.4	56.5	9.99	
04 V 0036	av sucz	Scrubber	Liquid	Ŧ	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	
ET 2508	0002-11	Scrubber	Blowdown	Rate	mdb		13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	13.9	
a/ V 2030 T3	F1-2007 AVB	Scrubber	Recirculation	Flow Rate	mdb		169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	169.0	
DDT 2203	CDC7-1-70	Venturi	Pressure	Drop	in. H ₂ O		8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	
1000 TT	11-2404	Baghouse	Inlet	Temperature	Ļ		384	384	384	384	384	384	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	385	
oly soft	lag No.		Parameter		Units		1/13/2011 13:06	1/13/2011 13:07	1/13/2011 13:08	1/13/2011 13:09	1/13/2011 13:10	1/13/2011 13:11	1/13/2011 13:12	1/13/2011 13:13	1/13/2011 13:14	1/13/2011 13:15	1/13/2011 13:16	1/13/2011 13:17	1/13/2011 13:18	1/13/2011 13:19	1/13/2011 13:20	1/13/2011 13:21	1/13/2011 13:22	1/13/2011 13:23	1/13/2011 13:24	1/13/2011 13:25	1/13/2011 13:26	1/13/2011 13:27	1/13/2011 13:28	1/13/2011 13:29	1/13/2011 13:30	1/13/2011 13:31	1/13/2011 13:32		1/13/2011 13:34	1/13/2011 13:35	1/13/2011 13:36	1/13/2011 13:37	

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January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
)	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	돐	Level	Feed Rate	Fluid Flow Rate	Drop
Units	_Έ	in. H ₂ O	mdb	mdg	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time									
1/13/2011 13:39	385	8.7	169.0	13.9	0.8	56.5	270.0	148.7	3.7
1/13/2011 13:40	385	8.7	169.0	13.9	8.0	56.4	270.0	148.7	3.7
1/13/2011 13:41	385	8.7	169.0	13.9	0.8	56.3	270.0	148.7	3.7
1/13/2011 13:42	385	8.7	169.0	13.9	8.0	56.2	270.0	148.7	3.7
1/13/2011 13:43	385	8.7	169.0	13.9	8.0	56.1	270.0	148.7	3.7
1/13/2011 13:44	385	8.7	169.0	13.9	8.0	56.0	270.0	148.7	3.7
	385	8.7	169.0	13.9	8.0	56.1	270.0	148.7	3.7
1/13/2011 13:46	382	8.7	169.0	13.9	8.0	56.3	270.0	148.7	3.7
1/13/2011 13:47	385	8.7	169.0	13.9	8.0	56.4	270.0	148.7	3.7
	385	8.7	169.0	13.9	8.0	56.5	270.0	148.7	3.7
- 1	385	8.7	169.0	13.9	8.0	56.6	270.0	148.7	3.7
1/13/2011 13:50	385	8.7	169.0	13.9	8.0	56.7	270.0	148.7	3.8
	385	8.7	169.0	13.9	8.0	26.7	270.0	148.7	3.8
	385	8.7	169.0	13.9	8.0	9.99	270.0	148.7	3.8 ′
1/13/2011 13:53	385	8.7	169.0	13.9	8.0	56.5	270.0	148.7	3.8
	385	8.7	169.0	13.9	8.0	56.4	270.0	148.7	3.8
1/13/2011 13:55	385	8.7	169.0	13.9	8.0	56.3	270.0	148.7	3.8
	385	8.7	169.0	13.9	8.0	56.3	270.0	148.7	3.8
1/13/2011 13:57	385	8.7	169.0	13.9	8.0	56.2	270.0	148.8	3.8
1/13/2011 13:58	385	8.7	169.0	13.9	8.0	56.2	270.0	148.8	3.8
	385	8.7	169.0	13.9	8.0	56.3	270.0	148.8	3.8
	385	8.7	169.0	13.9	8.0	56.4	270.0	148.8	3.8
1/13/2011 14:01	385	8.7	169.0	13.9	8.0	56.6	270.0	148.8	3.8
1/13/2011 14:02	385	8.7	169.0	13.9	8.0	26.7	270.0	148.8	3.8
1/13/2011 14:03	385	8.7	169.0	13.9	8.0	56.8	270.0	148.8	3.8
1/13/2011 14:04	385	8.7	169.0	13.9	8.0	56.9	270.0	148.8	3.8
1/13/2011 14:05	385	8.7	169.0	13.9	8.0	56.8	270.0	148.8	3.8
	384	8.7	169.0	13.9	8.0	56.8	270.0	148.8	3.8
	384	8.7	169.0	13.9	8.0	56.7	270.0	148.8	3.8
1/13/2011 14:08	384	8.7	169.0	13.9	8.0	56.6	270.0	148.8	3.8
1/13/2011 14:09	384	8.7	169.0	13.9	8.0	56.5	270.0	148.9	3.8
1/13/2011 14:10	384	8.7	169.0	13.9	8.0	56.4	270.0	148.8	3.8
1/13/2011 14:11	384	8.8	169.0	13.9	8.0	56.3	270.0	148.9	3.8

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Norlite Corporation - Cohoes, NY - MACT CPT 2010 January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30 Air Pollution Control System (APCS) Operating Parameters

Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
)	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	చ	Levei	Feed Rate	Fluid Flow Rate	Drop
Units	۴	in. H ₂ O	mdg	mdß	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
1/13/2011 14:12	384	8.8	169.0	13.9	8.0	56.3	270.0	148.9	3.8
1/13/2011 14:13	384	8.8	169.0	13.9	8.0	56.4	270.0	148.9	3.8
1/13/2011 14:14	384	8.8	169.0	13.9	8.0	56.5	270.0	148.9	3.8
1/13/2011 14:15	384	8.8	169.0	13.9	8.0	56.6	270.0	148.9	3.8
1/13/2011 14:16	384	8.8	169.0	13.9	8.0	56.7	270.0	148.9	3.8
1/13/2011 14:17	384	8.8	169.0	13.9	8.0	56.8	270.0	148.9	3.8
	384	8.8	169.0	13.9	8.0	56.8	270.0	148.8	3.8
1/13/2011 14:19	384	8.8	169.0	13.9	8.0	56.7	270.0	148.9	3.8
1/13/2011 14:20	384	8.8	169.0	13.9	8.0	56.6	270.0	148.9	3.8
1/13/2011 14:21	384	8.8	169.0	13.9	8.0	56.6	270.0	148.9	3.8
1/13/2011 14:22	384	8.8	169.0	13.9	8.0	56.5	270.0	148.9	3.8
1/13/2011 14:23	384	8.8	169.0	13.9	8.0	56.4	270.0	148.8	3.8
	384	8.7	169.0	13.9	8.0	56.3	270.0	148.8	3.8
1/13/2011 14:25	384	8.7	169.0	13.9	8.0	56.3	270.0	148.9	3.7
1/13/2011 14:26	384	8.7	169.0	13.9	8.0	56.2	270.0	148.9	3.7
1/13/2011 14:27	384	8.7	169.0	13.9	8.0	56.2	270.0	148.8	3.7
1/13/2011 14:28	384	8.7	169.0	13.9	8.0	56.4	270.0	148.8	3.7
1/13/2011 14:29	384	8.7	169.0	13.9	8.0	56.5	270.0	148.8	3.7
1/13/2011 14:30	384	8.7	169.0	13.9	8.0	56.7	270.0	148.8	3.7
1/13/2011 14:31	384	8.7	169.0	13.9	8.0	56.9	270.0	148.8	3.7
1/13/2011 14:32	384	8.7	169.0	13.9	8.0	56.9	270.0	148.8	3.7 ′
1/13/2011 14:33	384	8.7	169.0	13.9	8.0	56.9	270.0	148.8	3.7
1/13/2011 14:34	384	8.7	169.0	13.9	8.0	56.9	270.0	148.8	3.7
1/13/2011 14:35	384	8.6	169.0	13.9	8.0	56.8	270.0	148.8	3.7
1/13/2011 14:36	384	8.6	169.0	13.9	8.0	56.8	270.0	148.7	3.7
1/13/2011 14:37	384	8.6	169.0	13.9	8.0	56.8	270.0	148.7	3.7
1/13/2011 14:38	384	8.6	169.0	13.9	8.0	56.8	270.0	148.7	3.7
1/13/2011 14:39	384	8.6	169.0	13.9	8.0	56.8	270.0	148.7	3.7
1/13/2011 14:40	384	8.6	169.0	13.9	8.0	56.8	270.0	148.7	3.7
1/13/2011 14:41	384	8.6	169.0	13.9	8.0	56.9	270.0	148.7	3.7
1/13/2011 14:42	384	8.5	169.0	13.9	8.0	56.9	270.0	148.6	3.7
1/13/2011 14:43	384	8.5	169.0	13.9	8.0	56.9	270.0	148.7	3.6
1/13/2011 14:44	384	8.5	169.0	13.9	8.0	56.9	270.0	148.6	3.6

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January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

	1000				4 0000	- L L L		Ш	
- ag No.	-1-2404	CUCZ-140	G/A 1062-17	0067-1-	ZOUS AVD	LI-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DF 1-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	五	Level	Feed Rate	Fluid Flow Rate	Drop
Units	ት	in. H ₂ O	mdb	mdg	bH units	% II.	lb/hr	scfm	in. H ₂ O
Date / Time									
1/13/2011 14:45	384	8.5	169.0	13.9	8.0	56.7	270.0	148.6	3.6
1/13/2011 14:46	384	8.5	169.0	13.9	8.0	56.5	270.0	148.6	3.6
1/13/2011 14:47	384	8.5	169.0	13.9	8.0	56.5	270.0	148.6	3.6
1/13/2011 14:48	384	8.5	169.0	13.9	8.0	56.5	270.0	148.6	3.6
1/13/2011 14:49	384	8.4	169.0	13.9	8.0	56.6	270.0	148.6	3.6
1/13/2011 14:50	384	8.4	169.0	13.9	8.0	56.6	270.0	148.6	3.6
1/13/2011 14:51	384	8.4	169.0	13.9	8.0	26.7	270.0	148.6	3.6
1/13/2011 14:52	384	8.4	169.0	13.9	8.0	26.7	270.0	148.6	3.6
1/13/2011 14:53	384	8.4	169.0	13.9	8.0	56.8	270.0	148.6	3.6
1/13/2011 14:54	384	8.4	169.0	13.9	8.0	56.8	270.0	148.6	3.6
1/13/2011 14:55	384	8.3	169.0	13.9	8.0	6.99	270.0	148.6	3.6
1/13/2011 14:56	384	8.3	169.0	13.9	8.0	56.9	270.0	148.6	3.6
1/13/2011 14:57	384	8.3	169.0	13.9	8.0	57.0	270.0	148.6	3.5
1/13/2011 14:58	385	8.3	169.0	13.9	8.0	57.0	270.0	148.6	3.5
1/13/2011 14:59	385	8.3	169.0	13.9	8.0	56.8	270.0	148.5	3.5
1/13/2011 15:00	385	8.3	169.0	13.9	8.0	56.7	270.0	148.5	3.5
1/13/2011 15:01	385	8.3	169.0	13.9	8.0	56.6	270.0	148.5	3.5
1/13/2011 15:02	385	8.2	169.0	13.9	8.0	56.4	270.0	148.5	3.5
1/13/2011 15:03	385	8.2	169.0	13.9	8.0	56.3	270.0	148.5	3.5
1/13/2011 15:04	385	8.2	169.0	13.9	8.0	56.2	270.0	148.5	3.5
1/13/2011 15:05	385	8.2	169.0	13.9	8.0	56.2	270.0	148.4	3.5
1/13/2011 15:06	385	8.2	169.0	13.9	8.0	56.3	270.0	148.4	3.5
1/13/2011 15:07	385	8.2	169.0	13.9	8.0	56.4	270.0	148.4	3.5
1/13/2011 15:08	385	8.2	169.0	13.9	8.0	56.5	270.0	148.4	3.5
1/13/2011 15:09	385	8.2	169.0	13.9	8.0	56.6	270.0	148.4	3.5
1/13/2011 15:10	385	8.2	169.0	13.9	8.0	56.7	270.0	148.4	3.5
1/13/2011 15:11	385	8.1	169.0	13.9	8.0	56.8	270.0	148.4	3.5
1/13/2011 15:12	385	8.1	169.0	13.9	8.0	56.8	270.0	148.4	3.5 /
1/13/2011 15:13	385	8.1	168.0	13.9	8.0	29.7	270.0	148.4	3.5
1/13/2011 15:14	385	8.1	168.0	13.9	8.0	9.99	270.0	148.4	3.5
1/13/2011 15:15	385	8.1	168.0	13.9	8.0	56.5	270.0	148.4	3.5
1/13/2011 15:16	382	8.1	168.0	13.9	8.0	56.4	270.0	148.4	3.5
1/13/2011 15:17	385	8.1	168.0	13.9	8.0	56.3	270.0	148.4	3.5

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January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	표	Level	Feed Rate	Fluid Flow Rate	Drop
Units	۴	in. H ₂ O	mdß	mdg	pH units	% Hť.	lb/hr	scfm	in. H ₂ O
Date / Time	•								
1/13/2011 15:18	385	8.1	168.0	13.9	8.0	56.1	270.0	148.4	3.5
1/13/2011 15:19	385	8.1	168.0	13.9	8.0	56.1	270.0	148.4	3.5
1/13/2011 15:20	385	8.1	168.0	13.9	8.0	56.0	270.0	148.4	3.4
1/13/2011 15:21	385	8.1	168.0	13.9	8.0	56.1	270.0	148.4	3.4
1/13/2011 15:22	385	8.1	168.0	13.9	8.0	56.2	270.0	148.4	3.4
1/13/2011 15:23	385	8.1	168.0	13.9	8.0	56.3	270.0	148.4	3.4
1/13/2011 15:24	385	8.1	168.0	13.9	8.0	56.4	270.0	148.4	3.4
1/13/2011 15:25	385	8.0	168.0	13.9	8.0	56.5	270.0	148.4	3.4
1/13/2011 15:26	385	8.0	168.0	13.9	8.0	56.6	270.0	148.4	3.4
1/13/2011 15:27	385	8.0	168.0	13.9	8.0	56.7	270.0	148.4	3.4
1/13/2011 15:28	385	8.0	168.0	13.9	8.0	56.6	270.0	148.4	3.4
1/13/2011 15:29	385	8.0	168.0	13.9	8.0	56.5	270.0	148.4	3.4
1/13/2011 15:30	385	8.0	168.0	13.9	8.0	56.4	270.0	148.4	3.4
AVERAGE	384	8.6	169.1	13.9	8.0	56.5	270.0	148.7	3.7
WINIW	384	8.0	168.0	13.9	8.0	55.9	270.0	148.4	3.4
MAXIMUM	385	8.8	170.0	13.9	8.0	57.0	270.0	148.9	3.8

AECOM Environment

Daily CEMS Calibration Sheets (October 2010)

Kiln 1/Train A Calibration Checks

Norlite Corporation Cal Checks for 10/19/2010

Date/Time	Parameter	Analyzer Scala	Test Level	Reference Value	Mëasured Value	Actual Drift	Allowable Drift	Instrument Span	Results
10/19/2010 5:00 AM	CO ppm	Low	Zero	0.00 ppm	0.07 ppm	0.07 ppm	±6 բր ու	200 ppm	Unit online; Passed
10/19/2010 5:00 AM	CO ppm	Low	Span	170,10 ppm	167.50 ppm	-2.6 ppm	±6 ppm	200 ppm	Unit online; Passed
10/19/2010 6:00 AM	CO ppm	High	Zero	0.00 ppm	-3.40 ppm	-3.4 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/19/2010 5:00 AM	CO ppm	High	Span	2047.00 ppm	2010.20 ppm	-36.8 ppm	±90 ppra	3000 ppm	Unit online; Passed
10/19/2010 5:00 AM	02%	Single	Zero	0.00%	0.17%	0.17%	±0.5%	25%	Unit online; Passed
10/19/2010 5:00 AM	02%	Single	Span	18,03%	18,07%	0.04%	±0.5%	25%	Unit online; Passed

Kiln 1/Train B Calibration Checks

Norlite Corporation
Cal Checks for 10/19/2010

Date/Time	Perameter	Analyzer Scale	Test Level	Reference Value	Measured Valus	Actual Drift	Allowable Drift	Instrument Span	Results
10/19/2010 5:30 AM	CO ppm	Low	Zero	mgq 00,0	0,07 ppm	0.07 ppm	±6 ppm	200 ppm	Unit pnline; Passed
10/19/2010 5:30 AM	CO ppm	Low	Span	170.10 ppm	170.98 ppm	0.88 ppm	±6 ppm	200 ppm	Unit online; Passed
10/19/2010 5:30 AM	CO ppm	High	Zero	0.00 ppm	0.40 ppm	0.4 ppm	±90 ppm	3 000 p pm	Unit online; Passed
10/19/2010 5:30 AM	CO ppm	High	Span	2047.00 ppm	2031.00 ppm	- 16 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/19/2010 5:30 AM	02%	Single	Zem	0.00%	-0.06%	-0.06%	±0.5%	25%	Unit online; Passed
10/19/2010 5:30 AM	02%	Single	Span	18,03%	18,02%	-0.01%	±0.5%	25%	Unit online; Passed

CeDAR Reports 10/19/2010 5:51 AM, Kilin 1/Train B Calibration Checks

Kiln 1/Train A Calibration Checks

Norlite Corporation Cal Checks for 10/20/2010

Date/Time	Parameter	Analyzer Scala	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Insirument Span	Results
10/20/2010 5:00 AM	CO ppm	Low	Zero	0.00 ppm	0.30 ppm	0.3 ppm	±6 ppm	200 ppm	Unit online; Passed
10/20/2010 5:00 AM	CO ppm	Low	8pan	170,10 ppm	167.08 ppm	-3.02 ppm	tô ppm	200 ppm	Unit online; Passed
10/20/2010 5:00 AM	GQ ppm	High	Zero	0.00 ppm	-2.60 ppm	-2.6 ppm	±80 ppro	3000 ppm	Unit online; Passed
10/20/2010 5:00 AM	CO ppm	High	Span	2047.00 ppm	2001.20 ppm	-45.8 ppm	±90 pprn	3000 ppm	Unit online; Passed
10/20/2010 5:00 AM	02%	Single	Zero	%00.0	0.20%	0.2%	±0.5%	25%	Unit online; Passed
10/20/2010 5:00 AM	02%	Single	Span	18.03%	18.07%	0.04%	±0.5%	25%	Unit online; Passed

CeBAR Reports 10/20/2010 5:53 AM, Min 1/Train A Cellivation Checks

Kiln 1/Train B Calibration Checks

Norlite Corporation Cal Checks for 10/20/2010

Qate/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	instrument Span	Results
10/20/2010 5:30 AM	CQ ppm	row	Zero	0.00 ppm	-0.12 ppm	•0,12 ppm	±ô ppm	200 ppm	Unit online; Passed
10/20/2010 5:30 AM	CO ppm	Low	Span	170.10 ppm	169.65 ppm	-0.45 ppm	±8 ppm	200 ppm	Unit online; Passed
10/20/2010 5:30 AM	ÇQ ppm	i-ligh	Zero	0.00 ppm	-0.20 ppm	-0.2 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/20/2010 5:30 AM	CO ppm	High	Span	2047.00 ppm	2021.90 ppm	-25.1 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/20/2010 5:30 AM	02%	Single	Zero	0.00%	-0.06%	-0.08%	±0.5%	25%	Unit online: Passed
10/20/2010 5:30 AM	02%	Single	Span	18,03%	18.D4%	0.01%	£0.5%	25%	Unit online; Passed

GeDAR Reports 10/20/2010 5:53 AM, Kiln 1/Train B Calibration Chacits

Kiln 1/Train A Calibration Checks

Norlite Corporation Cal Checks for 10/21/2010

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowabie Drift	Instrument Span	Results
10/21/2010 5:00 AM	CO gam	Low	Zero	0.00 ppm	-0.05 ppm	-0,05 ppm	±6 ppm	200 ppm	Unit anime: Passed
10/21/2010 5:00 AM	CO ppm	Low	Span	170.10 ppm	165,74 ppm	-4.36 ppm	±8 ppm	200 ppm	Unit online; Passed
10/21/2010 5:00 AM	GO ppm	High	Zero	0.00 ppm	-3,20 ppm	-3.2 ppm	±90 pprn	3000 ppm	Unit online; Passed
10/21/2010 5:00 AM	GO ppm	High	Span	2047.00 ppm	1989.70 ppm	-57.3 ppm	±90 pprn	3000 ppm	Unit online; Passed
10/21/2010 5:00 AM	02%	Single	Zero	0.00%	0.18%	0.18%	±0.5%	25%	Unit online; Passed
10/21/2010 5:00 AM	02%	Single	Span	18,03%	17.99%	-0.04%	±0.5%	25%	Unit online: Passed

CeDAR Reports 10/21/2010 5:51 Alli, Kiln 1/Train A Celitration Checks

Kiln 1/Train B Calibration Checks

Norlite Corporation Cal Checks for 10/21/2010

Section Section Commission Commis	on a succession of the success	Analyzer	Test	Reference	Measured	British (Sept 1971) to the Control of Sept 1971 (Sept 1971)	Allowable	Instrument	· · · · · · · · · · · · · · · · · · ·
Date/Time	Parameter	Scale	Level	Value	Value	Actual Drift	Orlft	Span	Results
10/21/2010 5:30 AM	CO ppm	Low	Zero	0.00 ppm	-0.08 ppm	-0.06 ppm	±6 ppm	200 ppm	Unit online: Passed
10/21/2010 5:30 AM	CO ppm	Low	Span	170.10 ppm	171.63 ppm	1.53 ppm	tô ppm	200 ppm	Unit online: Passed
10/21/2010 5:30 AM	CO ppm	High	Zero	0.00 ppm	0.10 ppm	0.1 ppm	490 pprn	3000 ppm	Unit online; Passed
10/21/2010 5:30 AM	CO ppm	High	Span	2047.00 ppm	2030.60 ppm	-16.4 ppm	±90 ppm	3000 ppn1	Unit online; Passed
10/21/2010 5:30 AM	O2%	Single	Zero	0.00%	-0.06%	-0.06%	±0.5%	25%	Unit online; Passed
10/21/2010 5:30 AM	02%	Single	Span	18,03%	18.92%	-0.01%	±0.5%	25%	Unit online; Passed

CeDAR Reports 10/21/2010 5:57 AM, Kiln WTroln & Calibration Checks

AECOM Environment

Detailed Process Data Summaries (October 2010)

October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

						1			i	ı					ī																				-	
AO2-611 / F6-279	Š	Oxygen	Concentration % vol		15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
XO7-400 / F6-187	CO Concentration	corrected to	7.8 Q2		49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	49.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	47.0	47.0	47.0	47.0	47.0
FT-5555	Sec on L	MOIL 0	wetsofm		34,904	34,946	34,967	34,988	35,009	35,051	35,093	35,135	35,156	35,177	35,219	35,261	35,282	35,282	35,303	35,303	35,303	35,303	35,282	35,282	35,282	35,282	35,282	35,282	35,282	35,303	35,324	35,324	35,324	35,324	35,345	35,345
DPT-2104		Door	in H _o O	2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
TT-2403	Tychongor		μ π		450	450	449	449	449	449	449	449	449	449	449	449	449	449	448	448	448	448	448	448	448	448	448	448	449	449	449	449	449	449	449	449
TT-2105		Tomp.	i i		666	666	998	998	866	998	997	266	997	997	997	997	997	997	997	997	966	966	966	986	966	966	966	966	966	966	966	966	966	966	966	966
AR-2401 Shale	Siale Food	Leed Dato	tot		21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.7
PT-2302	Atomization	Procesuro	iso	<u>.</u>	54.1	54.0	53.8	53.7	53.6	53.4	53.3	53.2	53.1	53.0	52.9	52.7	52.7	52.7	52.7	52.7	52.6	52.6	52.6	52.6	52.5	52.5	52.4	52.4	52.4	52.4	52.4	52.4	52.4	52.4	52.4	52.4
MM-2401	ביים		upu do	5	10.2	10.2	10.2	10.2	10.2	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
Tag No.	Daramotor	ימומופופ	Units	Date / Time	10/19/2010 10:58	10/19/2010 10:59	10/19/2010 11:00	10/19/2010 11:01	10/19/2010 11:02	10/19/2010 11:03	10/19/2010 11:04	10/19/2010 11:05	10/19/2010 11:06	10/19/2010 11:07	10/19/2010 11:08	10/19/2010 11:09	10/19/2010 11:10	10/19/2010 11:11	10/19/2010 11:12	10/19/2010 11:13	10/19/2010 11:14	10/19/2010 11:15	10/19/2010 11:16	10/19/2010 11:17	10/19/2010 11:18	10/19/2010 11:19	10/19/2010 11:20	10/19/2010 11:21	10/19/2010 11:22	10/19/2010 11:23	10/19/2010 11:24	10/19/2010 11:25	10/19/2010 11:26	10/19/2010 11:27	10/19/2010 11:28	10/19/2010 11:29

October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

AN ACT	1000 DADA	COSC TO	AD 5404	TT 240E	TT 0400	100 TOO	ביי כבבכ	707 400 / 50 407	000 01 / 10 000
l ay 100.	IVIIVI-2401	7057-1	AR-2401	CO1 2-1 1	2403	1012-1104	0000-TL	/01-04/1004-10/	AUZ-011/10-Z/8
	LLGF	LGF	Shale	Ä	Heat	껿	Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdg	psi	tph	ኩ	۴	in. H ₂ O	wet scfm	mdd	% vol.
Date / Time									
10/19/2010 11:30	10.3	52.4	21.7	966	449	-0.1	35,366	47.0	15.5
10/19/2010 11:31	10.3	52.4	21.7	966	449	-0.1	35,366	47.0	15.5
10/19/2010 11:32	10.3	52.4	21.7	966	449	-0.1	35,366	47.0	15.5
10/19/2010 11:33	10.3	52.4	21.7	966	449	-0.1	35,387	47.0	15.5
10/19/2010 11:34	10.3	52.4	21.7	966	449	- 0.1	35,387	47.0	15.5
10/19/2010 11:35	10.3	52.4	21.7	966	449	-0.1	35,408	46.0	15.4
10/19/2010 11:36	10.3	52.4	21.7	966	450	6.1	35,408	46.0	15.4
10/19/2010 11:37	10.3	52.4	21.7	966	450	-0.1	35,429	46.0	15.4
10/19/2010 11:38	10.3	52.4	21.7	966	450	-0.1	35,429	46.0	15.4
10/19/2010 11:39	10.3	52.4	21.7	966	450	-0.1	35,429	46.0	15.4
10/19/2010 11:40	10.3	52.4	21.8	966	450	-0.1	35,429	46.0	15.4
10/19/2010 11:41	10.3	52.4	21.8	966	450	-0.1	35,429	46.0	15.4
10/19/2010 11:42	10.3	52.4	21.8	966	450	-0.1	35,450	46.0	15.4
10/19/2010 11:43	10.3	52.4	21.8	997	450	-0.1	35,450	46.0	15.4
10/19/2010 11:44	10.3	52.4	21.8	266	450	-0.1	35,450	46.0	15.4
10/19/2010 11:45	10.3	52.4	21.8	997	450	-0.1	35,471	45.0	15.4
10/19/2010 11:46	10.3	52.4	21.8	266	450	-0.1	35,450	45.0	15.4
10/19/2010 11:47	10.3	52.4	21.8	266	450	-0.1	35,471	45.0	15.4
10/19/2010 11:48	10.3	52.4	21.8	866	, 450	-0.1	35,471	45.0	15.4
10/19/2010 11:49	10.3	52.4	21.8	866	450	-0.1	35,471	45.0	15.4
10/19/2010 11:50	10.3	52.4	21.8	998	450	-0.1	35,492	45.0	15.4
10/19/2010 11:51	10.3	52.4	21.8	666	450	-0.1	35,492	45.0	15.4
10/19/2010 11:52	10.3	52.4	21.8	666	451	-0.1	35,492	45.0	15.4
10/19/2010 11:53	10.3	52.4	21.8	666	451	-0.1	35,513	45.0	15.4
10/19/2010 11:54	10.3	52.4	21.8	666	451	-0.1	35,513	45.0	15.4
10/19/2010 11:55	10.3	52.4	21.9	1,000	451	-0.1	35,513	45.0	15.4
10/19/2010 11:56	10.3	52.4	21.9	1,000	451	-0.1	35,513	45.0	15.4
10/19/2010 11:57	10.3	52.4	21.9	1,000	451	-0.1	35,513	45.0	15.4
10/19/2010 11:58	10.3	52.4	21.9	1,001	451	-0.1	35,513	45.0	15.4
10/19/2010 11:59	10.3	52.4	21.9	1,001	451	-0.1	35,513	44.0	15.4
10/19/2010 12:00	10.3	52.4	21.9	1,001	451	-0.1	35,534	44.0	15.4
10/19/2010 12:01	10.3	52.4	21.9	1,001	451	-0.1	35,513	44.0	15.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00

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Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	Κij	Heat	ΚijΣ	Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units Date / Time	mdb	, psi	tph	ш.	ř.	in. H ₂ O	wet scfm	wdd	% vol.
10/19/2010 12:02	10.3	52.4	21.9	1,002	451	-0.1	35,534	44.0	15.4
10/19/2010 12:03	10.3	52.4	21.9	1,002	451	-0.1	35,534	44.0	15.4
10/19/2010 12:04	10.3	52.5	21.9	1,002	451	-0.1	35,513	44.0	15.4
10/19/2010 12:05	10.3	52.5	21.9	1,002	451	-0.1	35,513	44.0	15.4
10/19/2010 12:06	10.3	52.5	21.9	1,003	451	-0.1	35,513	44.0	15.4
10/19/2010 12:07	10.3	52.5	21.9	1,003	451	-0.1	35,513	44.0	15.4
10/19/2010 12:08	10.3	52.5	21.9	1,003	451	-0.1	35,513	44.0	15.4
10/19/2010 12:09	10.3	52.5	21.9	1,003	451	-0.1	35,492	44.0	15.4
10/19/2010 12:10	10.3	52.5	21.9	1,004	451	-0.1	35,471	44.0	15.4
10/19/2010 12:11	10.3	52.5	21.9	1,004	451	-0.1	35,471	44.0	15.4
10/19/2010 12:12	10.3	52.5	21.9	1,004	451	-0.1	35,450	44.0	15.4
10/19/2010 12:13	10.3	52.5	21.9	1,004	452	-0.1	35,450	44.0	15.4
10/19/2010 12:14	10.2	52.5	21.9	1,004	452	-0.1	35,429	43.0	15.4
10/19/2010 12:15	10.2	52.5	21.9	1,005	452	-0.1	35,429	43.0	15.4
10/19/2010 12:16	10.2	52.5	21.9	1,005	452	-0.1	35,408	44.0	15.4
10/19/2010 12:17	10.2	52.5	21.9	1,005	452	-0.1	35,429	44.0	15.4
10/19/2010 12:18	10.2	52.5	21.9	1,005	452	-0.1	35,429	44.0	15.4
10/19/2010 12:19	10.2	52.5	22.0	1,005	452	-0.1	35,408	44.0	15.4
10/19/2010 12:20	10.2	52.5	22.0	1,005	452	-0.1	35,408	44.0	15.4
10/19/2010 12:21	10.2	52.5	22.0	1,006	452	-0.1	35,408	44.0	15,4
10/19/2010 12:22	10.2	52.5	22.0	1,006	452	-0.1	35,408	44.0	15.4
10/19/2010 12:23	10.2	52.5	21.9	1,006	452	-0.1	35,408	43.0	15.4
10/19/2010 12:24	10.2	52.5	21.9	1,006	452	-0.1	35,387	43.0	15.4
10/19/2010 12:25	10.2	52.5	22.0	1,006	452	-0.1	35,387	43.0	15.4
10/19/2010 12:26	10.2	52.5	22.0	1,006	452	-0.1	35,387	43.0	15.4
10/19/2010 12:27	10.2	52.5	22.0	1,006	451	-0.1	35,366	43.0	15.4
10/19/2010 12:28	10.2	52.5	22.0	1,007	451	-0.1	35,366	43.0	15.4
10/19/2010 12:29	10.2	52.5	22.0	1,007	451	-0.1	35,345	43.0	15.4
10/19/2010 12:30	10.2	52.5	22.0	1,007	451	0.1	35,345	43.0	15.4
10/19/2010 12:31	10.2	52.5	22.0	1,007	451	٠ <u></u>	35,345	43.0	15.4
10/19/2010 12:32	10.2	52.5	22.0	1,007	451	- 0.1	35,345	43.0	15.4
10/19/2010 12:33	10.2	52.5	22.0	1,008	451	-0.1	35,324	43.0	15.4

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Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00

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Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
)	LLGF	LLGF	Shale	ΚĬ	Heat		Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdb	psi	tbh	ţ.	Ļ	in. H ₂ O	wet scfm	mdd.	% vol.
Date / Time									
10/19/2010 12:34	10.2	52.5	22.0	1,008	451	-0.1	35,324	43.0	15.4
10/19/2010 12:35	10.2	52.5	22.0	1,008	451	-0.1	35,303	43.0	15,4
10/19/2010 12:36	10.2	52.5	22.0	1,008	451	-0.1	35,303	43.0	15.4
10/19/2010 12:37	10.2	52.5	22.0	1,008	451	-0.1	35,282	43.0	15,4
10/19/2010 12:38	10.2	52.5	22.0	1,008	451	-0.1	35,282	43.0	15.4
10/19/2010 12:39	10.2	52.5	22.0	1,008	451	-0.1	35,282	43.0	15.4
10/19/2010 12:40	10.2	52.5	22.1	1,008	451	-0.1	35,261	43.0	15.4
10/19/2010 12:41	10.2	52.5	22.1	1,009	451	-0.1	35,261	43.0	15.4
10/19/2010 12:42	10.2	52.5	22.1	1,009	451	-0.1	35,261	43.0	15.4
10/19/2010 12:43	10.1	52.5	22.1	1,009	451	-0.2	35,240	43.0	15.4
10/19/2010 12:44	10.1	52.5	22.1	1,009	451	-0.2	35,240	43.0	15.4
10/19/2010 12:45	10.1	52.5	22.1	1,009	451	-0,2	35,219	43.0	15.4
10/19/2010 12:46	10.1	52.5	22.1	1,009	451	-0.2	35,240	43.0	15.4
10/19/2010 12:47	10.1	52.5	22.1	1,009	451	-0.2	35,219	43.0	15.4
10/19/2010 12:48	10.1	52.5	22.1	1,009	451	-0.2	35,219	43.0	15.4
10/19/2010 12:49	10.1	52.5	22.1	1,009	451	-0.2	35,198	43.0	15.4
10/19/2010 12:50	10.1	52.5	22.2	1,008	451	-0.2	35,198	43.0	15.4
10/19/2010 12:51	10.2	52.5	22.2	1,008	451	-0.1	35,177	43.0	15.4
10/19/2010 12:52	10.2	52.5	22.2	1,008	451	-0.1	35,177	43.0	15.4
10/19/2010 12:53	10.2	52.5	22.2	1,008	451	-0.1	35,156	43.0	15.4
10/19/2010 12:54	10.2	52.5	22.2	1,008	451	-0.1	35,135	42.0	15.4
10/19/2010 12:55	10.1	52.5	22.2	1,008	451	-0.1	35,135	42.0	15.4
10/19/2010 12:56	10.1	52.5	22.2	1,008	451	-0.1	35,114	42.0	15.4
10/19/2010 12:57	10.1	52.6	22.3	1,008	451	-0.1	35,114	42.0	15.4
10/19/2010 12:58	10.1	52.9	22.3	1,008	451	-0.1	35,093	42.0	15.4
10/19/2010 12:59	10.1	53.2	22.3	1,008	451	-0.1	35,093	42.0	15.4
10/19/2010 13:00	10.1	53.6	22.3	1,008	451	-0.1	35,093	42.0	15.4
10/19/2010 13:01	10.1	53.9	22.3	1,007	450	-0.1	35,093	43.0	15.4
10/19/2010 13:02	10.1	54.3	22.3	1,007	450	-0.1	35,093	43.0	15.4
10/19/2010 13:03	10.1	54.7	22.3	1,007	450	-0.1	35,072	42.0	15.4
10/19/2010 13:04	10.1	55.0	22.3	1,007	450	-0.1	35,072	42.0	15.4
10/19/2010 13:05	10.1	55.3	22.3	1,007	450	-0.1	35,072	42.0	15.4

October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / E6-187	AO2-611 / E6-279
·	LLGF	LLGF	Shale	χ	Heat	Fi	Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdb	psi	toh	ir	Ļ	in. H ₂ O	wet scfm	mdd	% vol.
Date / Time									
10/19/2010 13:06	10.1	9:55	22.3	1,007	450	-0.1	35,051	42.0	15.4
10/19/2010 13:07	10.1	55.8	22.4	1,007	450	-0.1	35,051	42.0	15.4
10/19/2010 13:08	10.1	56.0	22.4	1,007	450	-0.1	35,030	42.0	15.4
10/19/2010 13:09	10.1	56.3	22.4	1,007	450	-0.1	35,009	42.0	15.4
10/19/2010 13:10	10.1	56.5	22.4	1,007	450	-0.1	35,009	42.0	15.4
10/19/2010 13:11	10.1	56.7	22.4	1,007	450	-0.1	35,009	42.0	15.4
10/19/2010 13:12	10.1	56.9	22.4	1,007	450	-0.1	35,009	42.0	15.4
10/19/2010 13:13	10.1	57.1	22.4	1,007	450	-0.1	34,988	42.0	15.4
10/19/2010 13:14	10.1	57.3	22.4	1,007	450	-0.1	34,988	42.0	15.4
10/19/2010 13:15	10.2	57.5	22.5	1,007	450	-0.1	34,988	42.0	15.4
10/19/2010 13:16	10.1	57.7	22.5	1,007	450	-0.1	34,988	42.0	15.4
10/19/2010 13:17	10.1	67.9	22.5	1,007	449	-0.1	34,988	42.0	15.4
10/19/2010 13:18	10.1	58.1	22.5	1,007	449	-0.3	34,967	42.0	15.4
10/19/2010 13:19	10.2	58.2	22.5	1,007	449	-0.1	34,967	42.0	15.4
10/19/2010 13:20	10.2	58.3	22.5	1,007	449	-0.1	34,946	42.0	15.4
10/19/2010 13:21	10.1	58.4	22.6	1,007	449	-0.1	34,925	42.0	15.4
10/19/2010 13:22	10.1	58.4	22.6	1,007	449	-0.1	34,904	42.0	15.4
10/19/2010 13:23	10.1	58.5	22.6	1,007	449	-0.1	34,883	42.0	15.4
10/19/2010 13:24	10.1	58.5	22.6	1,007	449	-0.1	34,883	42.0	15,4
10/19/2010 13:25	10.1	58.6	22.6	1,007	449	-0.1	34,862	42.0	15.4
10/19/2010 13:26	10.1	58.6	22.6	1,007	449	-0.1	34,841	42.0	15.4
10/19/2010 13:27	10.1	58.7	22.6	1,007	449	-0.1	34,841	42.0	15.4
10/19/2010 13:28	10.1	58.7	22.7	1,007	449	-0.1	34,841	42.0	15.4
10/19/2010 13:29	10.1	58.8	22.7	1,007	449	-0.1	34,820	42.0	15.4
10/19/2010 13:30	10.1	58.8	22.7	1,007	449	-0.1	34,820	42.0	15.4
10/19/2010 13:31	10.1	59.1	22.7	1,007	449	-0.1	34,799	42.0	15.4
10/19/2010 13:32	10.1	59.4	22.7	1,007	449	-0.1	34,778	42.0	15.4
10/19/2010 13:33	10.1	59.8	22.7	1,007	448	-0.1	34,778	42.0	15.4
10/19/2010 13:34	10.1	60.1	22.7	1,007	448	-0.1	34,757	42.0	15.4
10/19/2010 13:35	10.1	60.5	22.7	1,006	448	-0.1	34,757	42.0	15.4
10/19/2010 13:36	10.1	60.8	22.7	1,006	448	-0.1	34,757	42.0	15.4
10/19/2010 13:37	10.1	61.1	22.8	1,006	448	-0.1	34,757	42.0	15.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00 Process and CEM Operating Parameters

Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	Kiir	Heat	Kiin	Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdg	psi	tph	Ļ	ኩ	in. H ₂ O	wet scfm	mdd	% vol.
Date / IIme									
10/19/2010 13:38	10.1	61.5	22.8	1,006	448	٥.	34,757	42.0	15.4
10/19/2010 13:39	10.1	61.8	22.8	1,006	448	-0.1	34,757	42.0	15.4
10/19/2010 13:40	10.1	62.2	22.8	1,006	448	-0.1	34,736	42.0	15.4
10/19/2010 13:41	10.1	62.6	22.8	1,006	448	-0.1	34,736	42.0	15.4
10/19/2010 13:42	10.1	62.9	22.8	1,006	448	-0.1	34,715	42.0	15.4
10/19/2010 13:43	10.1	63.2	22.8	1,006	447	-0.1	34,715	42.0	15.4
10/19/2010 13:44	10.1	63.6	22.8	1,006	447	-0.1	34,715	42.0	15.4
10/19/2010 13:45	10.1	63.9	22.8	1,006	447	-0.1	34,715	42.0	15.4
10/19/2010 13:46	10.1	64.3	22.8	1,006	447	-0.1	34,715	42.0	15.4
10/19/2010 13:47	10.1	64.7	22.8	1,006	447	-0.1	34,694	42.0	15.4
10/19/2010 13:48	10.1	65.0	22.8	1,006	447	-0.1	34,694	42.0	15.4
10/19/2010 13:49	10.1	65.3	22.8	1,007	447	-0.1	34,673	42.0	15.4
10/19/2010 13:50	10.1	65.7	22.8	1,007	447	-0.1	34,673	42.0	15.4
10/19/2010 13:51	10.1	66.0	22.8	1,007	447	-0.1	34,652	42.0	15.4
10/19/2010 13:52	10.1	66.4	22.8	1,007	447	-0.1	34,652	41.0	15.4
10/19/2010 13:53	10.1	66.7	22.8	1,008	447	-0.1	34,652	41.0	15.4
10/19/2010 13:54	10.1	67.1	22.8	1,008	447	-0.2	34,652	41.0	15.4
10/19/2010 13:55	10.1	67.4	22.8	1,008	447	-0.2	34,652	41.0	15.4
10/19/2010 13:56	10.1	67.7	22.8	1,008	447	-0.1	34,673	41.0	15.4
10/19/2010 13:57	10.1	68.0	22.8	1,008	447	-0.1	34,673	41.0	15.4
10/19/2010 13:58	10.1	68.0	22.8	1,008	447	-0.1	34,673	41.0	15.4
10/19/2010 13:59	10.1	68.0	22.8	1,008	447	-0.1	34,652	41.0	15.4
10/19/2010 14:00	10.1	68.2	22.8	1,008	447	-0.1	34,631	41.0	15.4
AVERAGE	10.2	55.2	22.1	1,003	450	-0.1	35,170	44.1	15.4
MINIMUM	10.1	52.4	21.7	966	447	-0.3	34,631	41.0	15.4
MAXIMUM	10.3	68.2	22.8	1,009	452	-0.1	35,534	49.0	15.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42 Process and CEM Operating Parameters

Date of Time LLGF LLGF Shale Date / Time Rate Pressure Rate Date / Time April person Pressure Peach 10/19/2010 14:40 10.0 76.1 22.8 10/19/2010 14:41 10.0 76.0 22.8 10/19/2010 14:42 10.0 76.9 22.8 10/19/2010 14:44 10.0 75.9 22.8 10/19/2010 14:45 10.0 75.8 22.8 10/19/2010 14:45 10.0 75.8 22.8 10/19/2010 14:45 10.0 75.8 22.8 10/19/2010 14:45 10.0 75.8 22.8 10/19/2010 14:45 10.0 75.7 22.8 10/19/2010 14:5 10.0 75.7 22.8 10/19/2010 14:5 10.0 75.5 22.8 10/19/2010 14:5 10.0 75.5 22.8 10/19/2010 14:5 10.0 75.5 22.8 10/19/2010 15:0 10.0 75.5 22.8 1	AR-2401	•	-2403	DPT-2104	FT-5555	XO7-400 / E6-187	AO2-811 / E8-279
Feed Atomization Rate Pressure gpm psi 10.0 76.1 10.0 76.0 10.0 76.9 10.0 75.9 10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.7 10.0 75.7 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.7 10.0 73.5 10.0 73.5 10.0 73.5 10.0 73.5	Shale	Kiin	Heat		Flue Gas	CO Concentration	
Rate Pressure gpm psi 10.0 76.1 10.0 76.0 10.0 76.0 10.0 75.9 10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.7 10.0 75.7 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.5 10.0 73.3 10.1 73.3 10.1 73.3	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
9pm psi 10.0 76.1 10.0 76.0 10.0 76.0 10.0 75.9 10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.5 10.0 74.5 10.0 74.5 10.0 74.5 10.0 74.5 10.0 74.5 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.3 10.0	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
10.0 76.1 10.0 76.0 10.0 76.9 10.0 75.9 10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.7 10.0 75.6 10.0 75.5 10.0 75.5	tph	ţ.	Ļ	in. H ₂ O	wet scfm	mdd	% vol.
10.0 76.0 10.0 76.0 10.0 76.0 10.0 75.9 10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.7 10.0 75.7 10.0 75.6 10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.7 10.0 74.5 10.0 74.5 10.0 73.7 10.0 73.3 10.1 73.0				Ċ			
10.0 76.0 10.0 76.0 10.0 75.9 10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.7 10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.5 10.0 73.3 10.1 73.0	22.8	1,014	451	-0.1	35,135	41.0	15.4
10.0 76.0 10.0 75.9 10.0 75.9 10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.7 10.0 75.7 10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.7 10.0 73.3 10.1 73.0	22.8	1,014	451	-0.1	35,135	41.0	15.4
10.0 75.9 10.0 75.9 10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.7 10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.7 10.0 73.3 10.1 73.0	22.8	1,014	451	-0.1	35,156	41.0	15.4
10.0 75.9 10.0 75.9 10.0 75.8 10.0 75.8 10.0 75.7 10.0 75.7 10.0 75.7 10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.7 10.0 73.3 10.1 73.0	22.8	1,014	451	-0.1	35,156	41.0	15.4
10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.7 10.0 75.7 10.0 75.6 10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.7 10.0 73.3 10.1 73.0	22.8	1,014	451	-0.1	35,177	41.0	15.4
10.0 75.8 10.0 75.8 10.0 75.8 10.0 75.7 10.0 75.7 10.0 75.7 10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.7 10.0 73.3 10.1 73.0	22.8	1,014	451	-0.1	35,156	41.0	15.4
10.0 75.8 10.0 75.8 10.0 75.7 10.0 75.7 10.0 75.6 10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.7 10.0 73.3 10.1 73.0	22.8	1,014	451	-0.1	35,156	41.0	15.4
10.0 75.8 10.0 75.8 10.0 75.7 10.0 75.7 10.0 75.6 10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.7 10.0 73.3 10.1 73.0	22.8	1,013	451	-0.1	35,177	41.0	15.4
10.0 75.8 10.0 75.7 10.0 75.7 10.0 75.6 10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.7 10.0 73.5 10.1 73.3 10.1 73.0	22.8	1,013	452	-0.1	35,177	41.0	15.4
10.0 75.7 10.0 75.7 10.0 75.6 10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.2 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.5 10.0 73.5 10.1 73.3 10.1 73.0	22.8	1,013	452	-0.1	35,198	41.0	15.4
10.0 75.7 10.0 75.7 10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.7 10.0 73.5 10.1 73.0 10.1 73.0	22.8	1,013	452	-0.1	35,219	41.0	15.4
10.0 75.7 10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.7 10.0 73.5 10.1 73.0 10.1 73.0	22.8	1,013	452	-0.1	35,240	41.0	15.4
10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.5 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 74.5 10.0 73.7 10.0 73.5 10.1 73.0 10.1 73.0	22.8	1,013	452	-0.1	35,240	41.0	15.4
10.0 75.6 10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.2 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.5 10.0 74.0 10.0 73.7 10.0 73.5 10.1 73.0 10.1 73.0	22.8	1,013	452	-0.1	35,282	41.0	15.4
10.0 75.6 10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.2 10.0 75.2 10.0 74.7 10.0 74.5 10.0 74.5 10.0 74.0 10.0 73.7 10.0 73.3 10.1 73.0	22.8	1,013	452	-0.1	35,282	41.0	15.4
10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.2 10.0 75.0 10.0 74.5 10.0 74.2 10.0 74.0 10.0 73.7 10.0 73.3 10.1 73.0 10.1 73.0	22.8	1,012	452	-0.1	35,282	41.0	15.4
10.0 75.5 10.0 75.5 10.0 75.5 10.0 75.2 10.0 74.7 10.0 74.5 10.0 74.2 10.0 74.2 10.0 74.2 10.0 73.7 10.0 73.5 10.1 73.0 10.1 73.0	22.8	1,012	452	-0.1	35,261	41.0	15.4
10.0 75.5 10.0 75.5 10.0 75.2 10.0 74.7 10.0 74.5 10.0 74.2 10.0 74.2 10.0 74.0 10.0 73.7 10.0 73.5 10.1 73.0 10.1 73.0	22.8	1,012	452	-0.1	35,261	41.0	15.4
10.0 75.5 10.0 75.2 10.0 75.2 10.0 74.7 10.0 74.5 10.0 74.0 10.0 73.7 10.0 73.5 10.1 73.0 10.1 73.0	22.8	1,012	452	-0.1	35,282	41.0	15.4
10.0 75.2 10.0 75.0 10.0 74.5 10.0 74.2 10.0 74.0 10.0 73.7 10.0 73.5 10.1 73.0 10.1 73.0	22.8	1,012	452	-0.1	35,282	41.0	15.4
10.0 75.0 10.0 74.7 10.0 74.5 10.0 74.2 10.0 74.0 10.0 73.7 10.0 73.5 10.1 73.0 10.1 73.0	22.8	1,012	452	-0.1	35,282	41.0	15.4
10.0 74.7 10.0 74.5 10.0 74.2 10.0 73.7 10.0 73.5 10.0 73.3	22.8	1,011	452	-0.1	35,303	41.0	15.4
10.0 74.5 10.0 74.2 10.0 74.0 10.0 73.7 10.0 73.3 10.1 73.0	22.8	1,011	452	-0.1	35,282	41.0	15.4
10.0 74.2 10.0 74.0 10.0 73.7 10.0 73.5 10.1 73.0	22.8	1,011	452	0.1	35,303	41.0	15.4
10.0 74.0 10.0 73.7 10.0 73.5 10.0 73.3	22.8	1,011	452	6.1	35,303	41.0	15.4
10.0 73.7 10.0 73.5 10.0 73.3 10.1 73.0	22.8	1,010	452	-0.1	35,324	41.0	15.4
10.0 73.5 10.0 73.3 10.1 73.0	22.8	1,010	452	-0.1	35,345	41.0	15.4
10.1 73.0	22.8	1,010	452	-0.1	35,366	41.0	15.4
10.1 73.0	22.8	1,009	452	-0.1	35,387	41.0	15.4
10.4	22.8	1,009	452	-0.1	35,408	41.0	15.4
10.1	22.8	1,009	452	-0.1	35,429	41.0	15.4
10/19/2010 15:11 10.1 72.7 22.	22.8	1,008	452	-0.1	35,429	41.0	15.4

October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42 Norlite Corporation - Cohoes, NY - MACT CPT 2010

	6-187 AO2-611 / F6-279	rration	l to Oxygen	Concentration	% vol.		15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15,4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15,4	15.4	15.3	C L 7
	XO7-400 / F6-187	CO Concentration	corrected to	7% 02	mdd		41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	40.0	40.0	40.0	40,0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
eters	FT-5555	Flue Gas	Flow	Rate	wet scfm		35,429	35,450	35,450	35,450	35,450	35,450	35,450	35,408	35,345	35,324	35,282	35,261	35,240	35,240	35,219	35,219	35,219	35,198	35,156	35,156	35,135	35,114	35,114	35,093	35,093	35,072	35,051	35,030	35,009	35,009	35.009
g Parameters	DPT-2104	Kiln	Hood	Pressure	in. H ₂ 0		-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	- 0 .1	-0.1	-0.1	-0.1	-0.1	0.1
Operating	TT-2403	Heat	Exchanger	Exit	Ļ		452	452	452	452	452	452	452	452	452	451	451	451	451	451	451	451	451	451	450	450	450	450	450	450	450	450	450	450	450	449	449
and CEM	TT-2105	Ξ E	Back-End	Temp.	Ļ		1,008	1,007	1,007	1,006	1,006	1,006	1,005	1,005	1,004	1,004	1,004	1,003	1,003	1,002	1,002	1,001	1,001	1,001	1,000	1,000	666	666	866	866	866	266	266	266	966	966	966
Process &	AR-2401	Shale	Feed	Rate	tph		22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22,8	22.8	22.8
	PT-2302	LLGF	Atomization	Pressure	psi		72.6	72.5	72.3	72.2	72.1	72.0	71.8	71.7	71.6	71.5	71.4	71.3	71.2	71.1	71.1	71.1	71.1	71.1	71.1	71.1	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	
	MM-2401	LLGF	Feed	Rate	mdg		10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.2	10.2	10.2	10.2	10.2	10.2
	Tag No.		Parameter		Units	Date / Time	10/19/2010 15:12	10/19/2010 15:13	10/19/2010 15:14	10/19/2010 15:15	10/19/2010 15:16	10/19/2010 15:17	10/19/2010 15:18	10/19/2010 15:19	10/19/2010 15:20	10/19/2010 15:21	10/19/2010 15:22	10/19/2010 15:23	10/19/2010 15:24	10/19/2010 15:25	10/19/2010 15:26	10/19/2010 15:27	10/19/2010 15:28	10/19/2010 15:29	10/19/2010 15:30	10/19/2010 15:31	10/19/2010 15:32	10/19/2010 15:33	10/19/2010 15:34	10/19/2010 15:35	10/19/2010 15:36	10/19/2010 15:37	10/19/2010 15:38	10/19/2010 15:39	10/19/2010 15:40	10/19/2010 15:41	10/19/2010 15:42

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Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42

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AO2-611 / F6-279	Oxygen	Concentration	% vol.		15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
XO7-400 / F6-187 CO Concentration	corrected to	7% O ₂	mdd		40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
FT-5555 Flue Gas	Flow	Rate	wet scfm		35,030	35,051	35,072	35,093	35,114	35,135	35,156	35,156	35,177	35,177	35,198	35,219	35,240	35,261	35,303	35,324	35,366	35,429	35,471	35,534	35,576	35,618	35,660	35,681	35,723	35,744	35,786	35,828	35,870	35,912	35,975	36,017
DPT-2104 Kiin	Hood	Pressure	in. H ₂ O		-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0,1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
TT-2403 Heat	Exchanger	Exit	ዙ		449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	450	450	450	450
TT-2105 Kiln	Back-End	Temp.	۴		995	995	395	395	994	994	994	994	994	993	993	993	993	993	992	992	992	392	392	392	392	992	892	992	991	991	991	991	991	991	991	991
AR-2401 Shale	Feed	Rate	tph		22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8
PT-2302 LLGF	Atomization	Pressure	psi		71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2
MM-2401 LLGF	Feed	Rate	mdb		10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
Tag No.	Parameter		Units	Date / Time	10/19/2010 15:44	10/19/2010 15:45	10/19/2010 15:46	10/19/2010 15:47	10/19/2010 15:48	10/19/2010 15:49	10/19/2010 15:50	10/19/2010 15:51	10/19/2010 15:52	10/19/2010 15:53	10/19/2010 15:54	10/19/2010 15:55	10/19/2010 15:56	10/19/2010 15:57	10/19/2010 15:58	10/19/2010 15:59	10/19/2010 16:00	10/19/2010 16:01	10/19/2010 16:02	10/19/2010 16:03	10/19/2010 16:04	10/19/2010 16:05	10/19/2010 16:06	10/19/2010 16:07	10/19/2010 16:08	10/19/2010 16:09	10/19/2010 16:10	10/19/2010 16:11	10/19/2010 16:12	10/19/2010 16:13	10/19/2010 16:14	10/19/2010 16:15

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Process and CEM Operating Parameters

Tag No	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT_2404	ET_4555	XO7.400 / E8.187	AC2-811 / E8-270
	<u>н</u>	1991 - 1	Shale		1 d		Flue Gas	CO Concentration	617.0 1 10.700
Daramater	2 2	Atomization		AND YOUR	Frohonon		riue Gas	CO COLICERIA IIOII	į
רמו מו ומנמו מו מו מ	ב ב ב ב	Alomization	nea.	Dack-Eild	Exchanger	0001	MOIL 1	corrected to	Oxygen
	Kate	Pressure	Kate	lemp.	LX X	Pressure	Rate	7% O ₂	Concentration
Units Poto / Time	mdg	psi	to To	Ļ		in. H ₂ O	wet sofm	mdd	% vol.
Date / Lille									
10/19/2010 16:16	10.2	71.2	22.8	991	450	-0.1	36,059	40.0	15.3
10/19/2010 16:17	10.2	71.2	22.8	991	450	-0.1	36,122	40.0	15.3
10/19/2010 16:18	10.2	71.2	22.8	991	450	-0.1	36,164	40.0	15.3
10/19/2010 16:19	10.2	71.2	22.8	991	450	-0.1	36,206	40.0	15.3
10/19/2010 16:20	10.2	71.2	22.8	991	450	-0.1	36,248	40.0	15.3
10/19/2010 16:21	10.2	71.2	22.8	991	450	-0.1	36,290	40.0	15.3
10/19/2010 16:22	10.2	71.2	22.8	066	450	-0.1	36,311	40.0	15.3
10/19/2010 16:23	10.2	71.2	22.8	066	450	-0.1	36,332	40.0	15.3
10/19/2010 16:24	10.2	71.2	22.8	066	450	-0.1	36,332	40.0	15.3
10/19/2010 16:25	10.2	71.2	22.8	066	450	-0.1	36,353	40.0	15.3
10/19/2010 16:26	10.2	71.2	22.8	066	450	-0.1	36,374	40.0	15.3
10/19/2010 16:27	10.2	71.2	22.8	066	450	-0.1	36,395	40.0	15.3
10/19/2010 16:28	10.2	71.1	22.8	066	450	-0.1	36,416	40.0	15.3
10/19/2010 16:29	10.2	71.1	22.8	066	450	-0.1	36,437	40.0	15.3
10/19/2010 16:30	10.2	71.1	22.8	066	450	-0.1	36,458	40.0	15.3
10/19/2010 16:31	10.2	71.1	22.8	066	450	-0.1	36,479	41.0	15.3
10/19/2010 16:32	10.2	71.1	22.8	066	450	-0.1	36,500	41.0	15.3
10/19/2010 16:33	10.2	71.1	22.8	066	450	-0.1	36,521	41.0	15.3
10/19/2010 16:34	10.2	71.1	22.8	086	450	-0.1	36,563	40.0	15.3
10/19/2010 16:35	10.2	71.1	22.8	066	450	-0.1	36,584	40.0	15.3
10/19/2010 16:36	10.2	71.1	22.8	066	450	-0.1	36,605	40.0	15.3
10/19/2010 16:37	10.2	71.1	22.8	066	450	-O.1	36,647	40.0	15.3
10/19/2010 16:38	10.2	71.1	22.8	066	450	-0.1	36,668	40.0	15.3
10/19/2010 16:39	10.2	71.1	22.8	686	450	-0.1	36,710	40.0	15.3
10/19/2010 16:40	10.2	71.1	22.8	686	450	-0.1	36,752	40.0	15.3
10/19/2010 16:41	10.2	71.1	22.8	989	450	-0.1	36,794	40.0	15.3
10/19/2010 16:42	10.2	71.1	22.8	686	450	-0.1	36,815	40.0	15.3
10/19/2010 16:43	10.2	71.1	22.8	686	450	-0.1	36,836	40.0	15.3
10/19/2010 16:44	10.2	71.1	22.8	989	450	-0.1	36,857	40.0	15.3
10/19/2010 16:45	10.2	71.1	22.8	686	450	-0.1	36,878	40.0	15.3
10/19/2010 16:46	10.2	71.1	22.8	686	450	-0.1	36,899	40.0	15.3
10/19/2010 16:47	10.2	71.1	22.8	686	450	-0.1	36,920	40.0	15.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42

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Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	Κİİ	Heat	Kiln	Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
-,	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units Date / Time	md6	psi	tph	Ļ	Ļ.	in. H ₂ O	wet scfm	mdd	% vol.
10/10/2010 18:18	40.5	71.1	8 66	080	450	•	28.044	0.04	45.0
40/40/00/40 10:40	10.6	7.1.7	0.27	000	700	, c	30,94	40.0	
10/18/2010 16:49	7.01	0.17	8.77	222	450	į	36,941	40.0	15.3
10/19/2010 16:50	10.2	70.8	22.8	988	450	-0.1	36,962	40.0	15.3
10/19/2010 16:51	10.2	9.07	22.8	988	450	0.1	36,962	40.0	15.3
10/19/2010 16:52	10.2	70.4	22.8	988	450	-0.1	36,962	40.0	15.3
10/19/2010 16:53	10.2	70.2	22.8	988	450	-0.1	36,983	40.0	15.3
10/19/2010 16:54	10.2	70.0	22.8	886	450	-0.1	36,983	40.0	15.3
10/19/2010 16:55	10.2	70.1	22.8	988	450	-0.1	37,004	40.0	15.3
10/19/2010 16:56	10.2	70.0	22.8	886	450	ė.	37,025	40.0	15.3
10/19/2010 16:57	10.2	70.0	22.8	988	450	-0.1	37,025	40.0	15.3
10/19/2010 16:58	10.2	6.69	22.8	988	450	-0.1	37,025	41.0	15.3
10/19/2010 16:59	10.2	69.8	22.8	987	450	-0.1	37,025	41.0	15.3
10/19/2010 17:00	10.2	69.7	22.8	987	450	-0.1	37,046	41.0	15.3
10/19/2010 17:01	10.2	9.69	22.8	987	450	-0.1	37,046	41.0	15.3
10/19/2010 17:02	10.2	69.5	22.8	987	450	-0.1	37,046	41.0	15.3
10/19/2010 17:03	10.2	69.4	22.8	987	450	-0.1	37,046	41.0	15.3
10/19/2010 17:04	10.2	69.3	22.8	987	450	-0.2	37,046	41.0	15.3
10/19/2010 17:05	10.2	69.2	22.8	286	450	-0.2	37,025	41.0	15.3
10/19/2010 17:06	10.2	69.1	22.8	987	450	-0.2	37,025	41.0	15.3
10/19/2010 17:07	10.2	69.0	22.8	986	450	-0.1	37,004	41.0	15.3
10/19/2010 17:08	10.2	68.9	22.8	986	450	-0.1	37,004	40.0	15.3
10/19/2010 17:09	10.2	68.8	22.8	986	450	-o.	36,983	40.0	15.3
10/19/2010 17:10	10.2	68.8	22.8	985	450	-0.1	36,983	40.0	15.3
10/19/2010 17:11	10.2	68.7	22.8	985	450	-0.1	36,983	40.0	15.3
10/19/2010 17:12	10.2	9.89	22.8	985	450	-0.1	37,004	40.0	15.3
10/19/2010 17:13	10.2	68.5	22.8	985	450	-0.1	37,004	40.0	15.3
10/19/2010 17:14	10.2	68.4	22.8	984	450	-0.1	37,004	40.0	15.3
10/19/2010 17:15	10.2	68.3	22.8	984	450	-0.1	37,025	40.0	15.3
10/19/2010 17:16	10.2	68.2	22.8	984	450	-0.1	37,025	40.0	15.3
10/19/2010 17:17	10.2	68.1	22.8	984	450	-0.1	37,025	40.0	15.3
10/19/2010 17:18	10.2	68.0	22.8	984	450	-0.1	37,025	40.0	15.3
10/19/2010 17:19	10.2	67.9	22.8	983	450	0.1	37,046	40.0	15.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42 Process and CEM Operating Parameters

Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	Xiii	Heat	Kiin	Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	шфб	psi	tþ	Ļ.	Ļ.	in. H ₂ O	wet scfm	mdd	% vol.
Date / Time									
10/19/2010 17:20	10.2	67.8	22.8	983	450	-0.1	37,046	40.0	15.3
10/19/2010 17:21	10.2	67.7	22.8	983	450	-0.1	37,046	40.0	15.3
10/19/2010 17:22	10.2	9.79	22.8	983	450	-0.1	37,046	40.0	15.3
10/19/2010 17:23	10.2	67.5	22.8	983	449	-0.1	37,046	40.0	15.3
10/19/2010 17:24	10.2	67.4	22.8	983	449	-0.1	37,046	40.0	15.3
10/19/2010 17:25	10.2	67.4	22.8	982	449	-0.1	37,046	40.0	15.3
10/19/2010 17:26	10.2	67.3	22.8	982	449	-0.1	37,025	40.0	15.3
10/19/2010 17:27	10.2	67.2	22.8	982	449	-0.1	37,025	40.0	15.3
10/19/2010 17:28	10.2	67.1	22.8	982	449	-0.1	37,025	40.0	15.3
10/19/2010 17:29	10.2	67.0	22.8	982	449	-0.1	37,004	40.0	15.3
10/19/2010 17:30	10.2	6.99	22.8	982	449	-0.1	37,004	40.0	15.3
10/19/2010 17:31	10.2	66.8	22.8	981	449	-0.1	37,004	40.0	15.3
10/19/2010 17:32	10.2	66.7	22.8	981	449	-0.1	37,004	40.0	15.3
10/19/2010 17:33	10.2	9.99	22.8	981	449	-0.1	37,004	40.0	15.3
10/19/2010 17:34	10.3	9.99	22.8	981	449	-0.1	37,004	40.0	15.3
10/19/2010 17:35	10.3	66.5	22.8	981	449	-0.1	37,004	40.0	15.3
10/19/2010 17:36	10.3	66.4	22.8	981	449	-0.1	37,004	40.0	15.3
10/19/2010 17:37	10.3	66.3	22.8	981	449	-0.1	36,983	40.0	15.3
10/19/2010 17:38	10.3	66.2	22.8	981	449	-0.1	36,983	40.0	15.3
10/19/2010 17:39	10.3	66.1	22.8	981	449	-0.1	36,983	40.0	15.3
10/19/2010 17:40	10.3	0.99	22.8	981	448	-0.1	36,983	40.0	15.3
10/19/2010 17:41	10.3	62.9	22.8	980	448	-0.1	36,983	40.0	15.3
10/19/2010 17:42	10.3	65.8	22.8	086	448	-0.1	36,983	40.0	15.3
AVERAGE	10.2	71.0	22.8	995	450	-0.1	36,030	40.3	15.3
MINIMOM	10.0	65.8	22.8	980	448	-0.2	35,009	40.0	15.3
MAXIMUM	10.3	76.1	22.8	1,014	452	-0.1	37,046	41.0	15.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00 Process and CEM Operating Parameters

Tag No	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT_2404	ET_5888	XO7_400 / E8_187	AO2_814 / E8_970
9		195 E	Shale	Fi) Heat		Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdß	isd	tph	፟ኍ	ዙ	in. H ₂ O	wet scfm	mdd	% vol.
Date / Time									
10/19/2010 17:58	10.2	65.5	22.8	926	448	-0.1	36,941	41.0	15.3
10/19/2010 17:59	10.2	65.5	22.8	826	448	-0.1	36,962	41.0	15.3
10/19/2010 18:00	10.2	65.5	22.8	978	448	-0.1	36,920	41.0	15.3
10/19/2010 18:01	10.2	65.5	22.8	978	448	-0.1	36,899	41.0	15.3
10/19/2010 18:02	10.2	65.5	22.8	226	448	-0.1	36,878	41.0	15.3
10/19/2010 18:03	10.2	65.5	22.8	977	448	-0.1	36,878	41.0	15.4
10/19/2010 18:04	10.2	65.5	22.9	977	448	-0.1	36,857	41.0	15.4
10/19/2010 18:05	10.2	65.5	22.9	977	448	-0.1	36,836	41.0	15.4
10/19/2010 18:06	10.2	65.5	22.9	977	448	-0.1	36,815	41.0	15.4
10/19/2010 18:07	10.2	65.5	22.9	977	448	-0.1	36,794	41.0	15.4
10/19/2010 18:08	10.2	65.4	22.9	977	448	-0.1	36,794	41.0	15.4
10/19/2010 18:09	10.2	65.3	22.9	977	448	-0.1	36,773	41.0	15.4
10/19/2010 18:10	10.2	65.2	22.9	977	448	-0.1	36,731	41.0	15.4
10/19/2010 18:11	10,2	65.0	22.9	977	448	-0.1	36,710	41.0	15.4
10/19/2010 18:12	10.2	64.9	22.9	977	448	-0.1	36,647	41.0	15.4
10/19/2010 18:13	10.2	64.7	22.9	977	448	-0.1	36,605	41.0	15.4
10/19/2010 18:14	10.2	64.6	22.9	977	448	-0.1	36,563	41.0	15.4
10/19/2010 18:15	10.2	64.4	22.9	576	448	-0.1	36,521	41.0	15.4
10/19/2010 18:16	10.2	64.3	22.9	977	448	-0.1	36,479	41.0	15.4
10/19/2010 18:17	10.2	64.1	22.9	226	448	-0.1	36,437	41.0	15.4
10/19/2010 18:18	10.2	64.0	22.9	926	448	-0.1	36,416	41.0	15.4
10/19/2010 18:19	10.2	63.8	22.9	976	448	-0.1	36,374	41.0	15.4
10/19/2010 18:20	10.2	63.7	22.9	926	448	-0.1	36,353	41.0	15.4
10/19/2010 18:21	10.2	63.5	22.9	976	448	-0.1	36,311	41.0	15.4
10/19/2010 18:22	10.2	63.4	22.9	926	448	-0.1	36,290	41.0	15.4
10/19/2010 18:23	10.2	63.2	22.9	926	448	-0.1	36,269	41.0	15,4
10/19/2010 18:24	10.2	63.1	22.9	926	448	-0.1	36,269	41.0	15.4
10/19/2010 18:25	10.2	63.0	22.9	926	448	-0.1	36,248	41.0	15.4
10/19/2010 18:26	10.2	62.8	22.9	926	448	-0.1	36,227	41.0	15.4
10/19/2010 18:27	10.2	62.7	22.9	976	448	-0.1	36,227	41.0	15.4
10/19/2010 18:28	10.2	62.5	22.9	976	448	-0.1	36,206	41.0	15.4
10/19/2010 18:29	10.2	62.4	22.9	976	448	-0,1	36,206	41.0	15.4

October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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AO2-611 / F6-279		Oxygen	Concentration	% vol.		15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15,4	15.4	15.4	15.4	15.4	15.4	15.3	15.3	15.3	15.3	15.3	15.3
XO7-400 / F6-187	CO Concentration	corrected to	7% O ₂	bbm		41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0
FT-5555	Flue Gas	Flow	Rate	wet scfm		36,185	36,164	36,143	36,122	36,101	36,080	36,080	36,059	36,038	36,017	36,017	36,017	35,996	35,996	35,975	35,975	35,975	35,975	35,954	35,933	35,933	35,912	35,891	35,870	35,828	35,807	35,765	35,744	35,723	35,702	35,681	35,660
DPT-2104	튔	Hood	Pressure	in. H ₂ O		-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-o.1	- 0.1	-0.1		- 0.1	, 0,1	Ģ	Ġ.	1.	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
TT-2403	Heat	Exchanger	Exit	Ļ		448	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449
TT-2105	ΑË	Back-End	Temp.	Ļ		975	975	975	975	975	975	975	975	975	974	974	974	974	974	974	974	974	973	973	973	973	973	973	973	973	973	973	973	973	973	973	973
AR-2401	Shale	Feed	Rate	tph		22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8
PT-2302	LLGF	Atomization	Pressure	isd		62.2	62.0	61.8	61.7	61.5	61.3	61.1	61.0	8.09	9.09	60.7	9.09	60.4	60.2	59.9	59.7	59.5	59.3	59.1	58.9	58.7	58.4	58.2	58.0	57.8	57.6	57.4	57.1	56.9	56.7	56.5	56.3
MM-2401	LLGF	Feed	Rate	md6		10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.2	10.2	10.2	10.2	10.2	10.2
Tag No.		Parameter		Units	Date / Time	10/19/2010 18:30	10/19/2010 18:31	10/19/2010 18:32	10/19/2010 18:33	10/19/2010 18:34	10/19/2010 18:35	10/19/2010 18:36	10/19/2010 18:37	10/19/2010 18:38	10/19/2010 18:39	10/19/2010 18:40	10/19/2010 18:41	10/19/2010 18:42	10/19/2010 18:43	10/19/2010 18:44	10/19/2010 18:45	10/19/2010 18:46	10/19/2010 18:47	10/19/2010 18:48	10/19/2010 18:49	10/19/2010 18:50	10/19/2010 18:51	10/19/2010 18:52	10/19/2010 18:53	10/19/2010 18:54	10/19/2010 18:55	10/19/2010 18:56	10/19/2010 18:57	10/19/2010 18:58	10/19/2010 18:59	10/19/2010 19:00	10/19/2010 19:01

October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

LLGF Feed Rate gpm 10.2 10.2 10.2 10.2	LLGF Atomization Pressure psi 56.1 56.8 55.8 55.6 55.4 55.2	Shale Shale Feed Rate .	Kiin	Heat	기 등 :	Flue Gas	CO Concentration	6/501/110-500
2 2 2 2 2 2 3 E G	Atomization Pressure psi 56.1 55.8 55.6 55.6 55.4 55.2	Feed Rate . tph		i chowl		¥01	of polocurou	(
# E 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6, 6,	Pressure psi 56.1 55.8 55.6 55.4 55.4	Rate .	Back-End	Exclange	Hood		corrected to	Oxygen
E 0,0,0,0,0,0	56.1 56.8 55.8 55.4 55.4 55.2	ta	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
0, 0, 0, 0, 0, 0,	56.1 55.8 55.6 55.4 55.2 55.2		Ļ	ļ.	in. H ₂ O	wet scfm	mdd	% vol.
0, 0, 0, 0, 0, 0,	56.1 55.8 55.4 55.2 55.2							
0 0 0 0 0	55.8 55.6 55.4 55.2 54.9	22.8	848	644	-0.1	099'98	41.0	15.3
2, 2, 2, 2,	55.6 55.4 55.2 54.9	22.8	973	449	-0.1	35,639	41.0	15.3
4 4 4	55.4 55.2 54.9	22.8	973	449	-0.1	35,639	41.0	15.3
2, 2,	55.2	22.8	973	449	-0.3	35,618	41.0	15.3
2	54.9	22.8	973	449	-0.1	35,618	41.0	15.3
_		22.8	973	449	-0.1	35,597	41.0	15.3
10.2	54.8	22.8	973	449	-0.1	35,597	41.0	15.3
10,2	54.7	22.8	973	449	-0.1	35,597	41.0	15.3
10.2	54.7	22.8	973	449	-0.1	35,597	41.0	15.3
10.2	54.6	22.8	973	449	-0.1	35,618	41.0	15.3
10.2	54.5	22.8	973	449	-0.1	35,660	41.0	15.3
10.2	54.4	22.8	973	449	-0.2	35,702	41.0	15.3
10.2	54.4	22.8	973	449	-0.1	35,744	41.0	15.3
10.2	54.3	22.8	973	449	-0.1	35,786	41.0	15.3
10.2	54.2	22.8	973	449	-0.1	35,807	41.0	15.3
10.2	54.1	22.8	973	449	-0.1	35,849	41.0	15.3
10.2	54.1	22.8	973	449	-0.1	35,870	41.0	15.3
10.2	54.0	22.8	973	449	-0.2	35,891	41.0	15.3
10.2	54.0	22.8	973	449	-0.1	35,891	41.0	15.3
10.2	53.9	22.8	972	449	-0.1	35,912	41.0	15.3
10.2	53.8	22.8	972	449	-0.1	35,912	41.0	15.3
10.2	53.7	22.8	972	449	0.1	35,912	41.0	15.3
10.2	53.7	22.8	972	449	-0.1	35,912	41.0	15.3
10.2	53.6	22.8	972	449	-0.1	35,912	41.0	15.3
10.2	53.5	22.8	972	449	-0.1	35,912	41.0	15.3
10.2	53.4	22.8	972	449	-0.1	35,891	41.0	15.3
	53.3	22.8	972	449	-0.1	35,891	41.0	15.3
5	53.2	22.8	972	449	-0.1	35,891	41.0	15.3
10.2	53.2	22.8	972	449	-0.1	35,891	41.0	15.3
10.2	53.1	22.8	972	449	-0.1	35,912	41.0	15.3
10.2	53.1	22.8	972	449	-0.1	35,933	41.0	15.3
10.2	53.0	22.8	972	449	-0.1	35,954	41.0	15.3
	10.2 10.2 10.2 10.2 10.2 10.2 10.2 10.2		54.7 54.6 54.6 54.4 54.4 54.1	54.7 22.8 54.6 22.8 54.4 22.8 54.4 22.8 54.4 22.8 54.2 22.8 54.1 22.8 54.0 22.8 53.9 22.8 53.9 22.8 53.7 22.8 53.6 22.8 53.6 22.8 53.7 22.8 53.6 22.8 53.7 22.8 53.4 22.8 53.5 22.8 53.1 22.8 53.1 22.8 53.1 22.8 53.1 22.8 53.1 22.8 53.1 22.8 53.1 22.8 53.1 22.8 53.1 22.8 53.1 22.8 53.1 22.8	54.7 22.8 973 54.6 22.8 973 54.4 22.8 973 54.4 22.8 973 54.4 22.8 973 54.2 22.8 973 54.1 22.8 973 54.1 22.8 973 54.0 22.8 973 54.0 22.8 972 53.9 22.8 972 53.7 22.8 972 53.6 22.8 972 53.6 22.8 972 53.4 22.8 972 53.5 22.8 972 53.4 22.8 972 53.5 22.8 972 53.5 22.8 972 53.5 22.8 972 53.1 22.8 972 53.1 22.8 972 53.1 22.8 972 53.1 22.8 972 53.1 22.8 972 53.1 22.8 972 53.1 22.8 972 53.1 22.8 972 53.1 22.8 972 53.1 22.8 972 <t< td=""><td>54.7 22.8 973 449 54.6 22.8 973 449 54.4 22.8 973 449 54.4 22.8 973 449 54.4 22.8 973 449 54.4 22.8 973 449 54.2 22.8 973 449 54.1 22.8 973 449 54.1 22.8 973 449 54.1 22.8 973 449 54.0 22.8 972 449 53.9 22.8 972 449 53.8 22.8 972 449 53.6 22.8 972 449 53.6 22.8 972 449 53.5 22.8 972 449 53.5 22.8 972 449 53.4 22.8 972 449 53.5 22.8 972 449 53.2 22.8 972 449 53.1 22.8 972 449 </td></t<> <td>54.7 22.8 973 449 -0.1 54.6 22.8 973 449 -0.1 54.6 22.8 973 449 -0.1 54.4 22.8 973 449 -0.1 54.4 22.8 973 449 -0.1 54.4 22.8 973 449 -0.1 54.2 22.8 973 449 -0.1 54.1 22.8 973 449 -0.1 54.0 22.8 973 449 -0.1 54.0 22.8 973 449 -0.1 54.0 22.8 972 449 -0.1 53.9 22.8 972 449 -0.1 53.7 22.8 972 449 -0.1 53.7 22.8 972 449 -0.1 53.4 22.8 972 449 -0.1 53.2 22.8 972 449 -0.1</td> <td>54.7 22.8 973 449 -0.1 35,597 54.6 22.8 973 449 -0.1 35,618 54.4 22.8 973 449 -0.1 35,660 54.4 22.8 973 449 -0.1 35,744 54.2 22.8 973 449 -0.1 35,746 54.1 22.8 973 449 -0.1 35,746 54.1 22.8 973 449 -0.1 35,849 54.1 22.8 973 449 -0.1 35,849 54.0 22.8 973 449 -0.1 35,891 54.0 22.8 973 449 -0.1 35,891 54.0 22.8 972 449 -0.1 35,891 53.8 22.8 972 449 -0.1 35,912 53.6 22.8 972 449 -0.1 35,912 53.5 22.8 972</td>	54.7 22.8 973 449 54.6 22.8 973 449 54.4 22.8 973 449 54.4 22.8 973 449 54.4 22.8 973 449 54.4 22.8 973 449 54.2 22.8 973 449 54.1 22.8 973 449 54.1 22.8 973 449 54.1 22.8 973 449 54.0 22.8 972 449 53.9 22.8 972 449 53.8 22.8 972 449 53.6 22.8 972 449 53.6 22.8 972 449 53.5 22.8 972 449 53.5 22.8 972 449 53.4 22.8 972 449 53.5 22.8 972 449 53.2 22.8 972 449 53.1 22.8 972 449	54.7 22.8 973 449 -0.1 54.6 22.8 973 449 -0.1 54.6 22.8 973 449 -0.1 54.4 22.8 973 449 -0.1 54.4 22.8 973 449 -0.1 54.4 22.8 973 449 -0.1 54.2 22.8 973 449 -0.1 54.1 22.8 973 449 -0.1 54.0 22.8 973 449 -0.1 54.0 22.8 973 449 -0.1 54.0 22.8 972 449 -0.1 53.9 22.8 972 449 -0.1 53.7 22.8 972 449 -0.1 53.7 22.8 972 449 -0.1 53.4 22.8 972 449 -0.1 53.2 22.8 972 449 -0.1	54.7 22.8 973 449 -0.1 35,597 54.6 22.8 973 449 -0.1 35,618 54.4 22.8 973 449 -0.1 35,660 54.4 22.8 973 449 -0.1 35,744 54.2 22.8 973 449 -0.1 35,746 54.1 22.8 973 449 -0.1 35,746 54.1 22.8 973 449 -0.1 35,849 54.1 22.8 973 449 -0.1 35,849 54.0 22.8 973 449 -0.1 35,891 54.0 22.8 973 449 -0.1 35,891 54.0 22.8 972 449 -0.1 35,891 53.8 22.8 972 449 -0.1 35,912 53.6 22.8 972 449 -0.1 35,912 53.5 22.8 972

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Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00

Process and CEM Operating Parameters

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AO2-611 / F6-279	Oxygen	Concentration	% vol.		15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
XO7-400 / F6-187 CO Concentration	corrected to	7% O ₂	mdd		41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0
FT-5555 Flue Gas	Flow	Rate	wet scfm		35,975	35,996	36,017	36,017	36,017	36,017	35,996	35,996	35,975	35,975	35,975	35,954	35,954	35,954	35,954	35,954	35,933	35,933	35,933	35,933	35,933	35,933	35,912	35,912	35,891	35,870	35,870	35,870	35,849	35,849	35,828	35,828
DPT-2104 Kiin	Hood	Pressure	in. H ₂ O		-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.3	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
TT-2403 Heat	Exchanger	Exit	Ļ		449	449	449	449	449	449	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	451	451	451	451	451	451	451	451	451	451	451
TT-2105 Kiln	Back-End	Temp.	Ļ		972	972	972	972	972	972	972	972	972	971	971	971	971	971	971	971	971	971	971	970	970	970	970	970	970	696	696	696	696	696	696	968
AR-2401 Shale	Feed	Rate	top		22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8
PT-2302 LLGF	Atomization	Pressure	psi		52.9	52.8	52.8	52.7	52.6	52.6	52.3	52.2	52.1	52.1	52.1	52.1	52.0	52.0	52.0	52.0	52.0	52.0	51.9	51.9	51.9	51.9	51.9	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8	51.8
MM-2401 LLGF	Feed	Rate	gpm		10.2	10.1	10.1	10.1	10.1	10.1	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.1	10.1	10.1	10.1	10.2	10.2	10.2	10.2	10.2	10.1	10.1	10.1	10.1	10.2	10.2	10.2
Tag No.	Parameter		Units	Date / Time	10/19/2010 19:34	10/19/2010 19:35	10/19/2010 19:36	10/19/2010 19:37	10/19/2010 19:38	10/19/2010 19:39	10/19/2010 19:40	10/19/2010 19:41	10/19/2010 19:42	10/19/2010 19:43	10/19/2010 19:44	10/19/2010 19:45	10/19/2010 19:46	10/19/2010 19:47	10/19/2010 19:48	10/19/2010 19:49	10/19/2010 19:50	10/19/2010 19:51	10/19/2010 19:52	10/19/2010 19:53	10/19/2010 19:54	10/19/2010 19:55	10/19/2010 19:56	10/19/2010 19:57	10/19/2010 19:58	10/19/2010 19:59	10/19/2010 20:00	10/19/2010 20:01	10/19/2010 20:02	10/19/2010 20:03	10/19/2010 20:04	10/19/2010 20:05

October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Parameter Units Date / Time		- COCC +0	7070	14 040 F	TT 2403	7070 Had	2000	707 JON 707	010 010
Parameter Units Date / Time		702-1-	AR-2401	0017-11	5047-11	1017-170	CCC-1-	701-400 / L0-10/	AUZ-011/ P0-7/8
Parameter Units Date / Time	<u></u>	15 15	Shale	Ē	Heat	Zila Li	Flue Gas	CO Concentration	
Units Date / Time	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
Units Date / Time	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Date / Time	gpm	psi	tph	Ļ	Ļ	in. H ₂ O	wet sofm	mdd	% vol.
21111									
10/19/2010 20:06	10.2	51.9	22.8	896	451	-0.1	35,828	41.0	15.3
10/19/2010 20:07	10.2	51.8	22.8	896	451	-0.1	35,807	41.0	15.3
10/19/2010 20:08	10.2	51.8	22.8	896	451	-0.1	35,807	41.0	15.3
10/19/2010 20:09	10.2	51.9	22.8	896	451	0.1	35,807	41.0	15.3
10/19/2010 20:10	10.2	51.9	22.8	896	451	-0.1	35,807	41.0	15.3
10/19/2010 20:11	10.2	51.9	22.8	968	451	-0.1	35,786	41.0	15.3
10/19/2010 20:12	10.2	51.9	22.8	968	451	-0.1	35,744	41.0	15.3
10/19/2010 20:13	10.2	51.9	22.8	896	451	-0.1	35,723	41.0	15.3
10/19/2010 20:14	10.2	51.9	22.8	968	451	-0.1	35,681	41.0	15.3
10/19/2010 20:15	10.2	51.9	22.8	968	451	-0.1	35,639	41.0	15.3
10/19/2010 20:16	10.2	51.9	22.8	968	451	Ġ.	35,597	41.0	15.3
10/19/2010 20:17	10.2	51.9	22.8	968	451	-0.1	35,576	41.0	15.3
10/19/2010 20:18	10.2	51.9	22.8	968	451	-0.1	35,534	41.0	15.3
10/19/2010 20:19	10.2	51.9	22.8	896	451	-0.1	35,513	41.0	15.3
10/19/2010 20:20	10.2	51.9	22.8	968	451	-0.1	35,492	41.0	15.3
10/19/2010 20:21	10.2	51.9	22.8	896	451	-0.1	35,492	41.0	15.3
10/19/2010 20:22	10.2	51.9	22.8	968	451	-0.1	35,471	41.0	15.3
10/19/2010 20:23	10.2	51.9	22.8	968	451	-0.2	35,471	41.0	15.3
10/19/2010 20:24	10.2	51.9	22.8	896	451	-0.1	35,471	41.0	15.3
10/19/2010 20:25	10.2	51.9	22.8	968	451	-0.1	35,471	41.0	15.3
10/19/2010 20:26	10.2	51.9	22.8	896	451	-0.1	35,450	41.0	15.3
10/19/2010 20:27	10.2	51.9	22.8	896	451	-0.1	35,450	41.0	15.3
10/19/2010 20:28	10.2	51.9	22.8	296	451	-0.1	35,471	41.0	15.3
10/19/2010 20:29	10.2	52.0	22.8	296	451	-0.1	35,492	41.0	15.3
10/19/2010 20:30	10.2	52.0	22.8	296	451	-0.1	35,492	41.0	15.3
10/19/2010 20:31	10.2	52.0	22.8	296	451	-0.1	35,492	40.0	15.3
10/19/2010 20:32	10.2	52.0	22.8	296	451	-0.1	35,492	40.0	15.3
10/19/2010 20:33	10.2	52.1	22.8	996	451	-0.1	35,471	40.0	15.3
10/19/2010 20:34	10.2	52.1	22.8	996	451	0.1	35,450	40.0	15.3
10/19/2010 20:35	10.2	52.1	22.8	2967	451	Ġ.	35,429	40.0	15.3
10/19/2010 20:36	10.2	52.1	22.8	296	451	-0.1	35,408	40.0	15.3
10/19/2010 20:37	10.2	52.2	22.8	296	451	-0.1	35,387	40.0	15.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00
Process and CEM Operating Parameters

ON DET	MM-2401	PT-2302	AR-2401	TT-2405	TT-2403	DPT_2404 FT.	FT_5555	XO7-400 / EB-187	AC0-641 / E6-070
	LLGF	LLGF	Shale	Ā	Heat	E	Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdg	psi	toh	ŗ.	ኍ	in. H ₂ O	wet sofm	mdd	% vol.
Date / Time									
10/19/2010 20:38	10.3	52.2	22.8	296	451	-0.1	35,366	40.0	15.3
10/19/2010 20:39	10.3	52.2	22.8	967	451	-0.1	35,345	40.0	15.3
10/19/2010 20:40	10.3	52.2	22.8	296	451	-0.1	35,324	40.0	15.3
10/19/2010 20:41	10.3	52.3	22.8	968	451	-0.1	35,303	40.0	15.3
10/19/2010 20:42	10.3	52.3	22.8	896	451	-0.1	35,303	40.0	15.3
10/19/2010 20:43	10.3	52.3	22.8	968	451	-0.1	35,282	40.0	15.3
10/19/2010 20:44	10.3	52.3	22.8	896	451	-0.1	35,282	40.0	15.3
10/19/2010 20:45	10.3	52.4	22.8	998	451	-0.1	35,261	40.0	15.3
10/19/2010 20:46	10.3	52.4	22.8	968	451	-0.1	35,261	40.0	15.3
10/19/2010 20:47	10.3	52.4	22.8	968	451	-0.1	35,240	40.0	15.3
10/19/2010 20:48	10.3	52.4	22.8	896	451	-0.1	35,219	40.0	15.3
10/19/2010 20:49	10.3	52.4	22.8	696	451	-0.1	35,219	40.0	15.3
10/19/2010 20:50	10.3	52.5	22.8	696	451	-0.1	35,219	40.0	15.3
10/19/2010 20:51	10.3	52.5	22.8	696	451	-0.1	35,198	40.0	15.3
10/19/2010 20:52	10.3	52.5	22.8	696	451	-0.1	35,198	39.0	15.3
10/19/2010 20:53	10.3	52.5	22.8	696	451	-0.1	35,219	39.0	15.3
10/19/2010 20:54	10.3	52.5	22.8	696	451	-0.1	35,219	39.0	15.3
10/19/2010 20:55	10.3	52.6	22.8	696	451	-0.1	35,219	39.0	15,3
10/19/2010 20:56	10.3	52.6	22.8	696	450	-0.3	35,219	39.0	15.3
10/19/2010 20:57	10.3	52.6	22.8	969	450	- 0.1	35,240	39.0	15.3
10/19/2010 20:58	10.3	52.6	22.8	696	450	-0.1	35,240	39.0	15.3
10/19/2010 20:59	10.3	52.6	22.8	696	450	-0.1	35,240	39.0	15.3
10/19/2010 21:00	10.3	52.6	22.8	696	450	-0.1	35,240	39.0	15.3
AVERAGE	10.2	55.9	22.8	972	450	-0.1	35,874	40.8	15.3
MINIMUM	10.1	51.8	22.8	966	448	-0.3	35,198	39.0	15,3
MAXIMUM	10.3	65.5	22.9	978	451	-0.1	36,962	41.0	15.4

October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

					7.																																
AO2-611 / F6-279		Oxygen	Concentration	% vol.		14.9	14.9	14.9	14.8	14.8	14.9	14.9	14.9	14.9	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.9	14.9
XO7-400 / F6-187	CO Concentration	corrected to	7% O ₂	mdd		29.0	29.0	29,0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0
FT-5555	Flue Gas	Flow	Rate	wet scfm		33,707	33,686	33,686	33,665	33,665	33,665	33,665	33,665	33,686	33,686	33,686	33,686	33,686	33,707	33,707	33,707	33,707	33,707	33,707	33,728	33,728	33,728	33,728	33,749	33,749	33,770	33,791	33,791	33,812	33,812	33,833	33,833
DPT-2104	Kiln	Hood	Pressure	in. H ₂ O		-0.4	-0.4	-0.4	-0.4	-0.4	-0.3	-0.3	-0.3	-0.2	-0.4	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.3	-0.4	-0.4	-0.3	-0.4	-0.4
TT-2403	Heat	Exchanger	Exit	ት		449	449	449	449	448	448	448	448	448	448	447	447	447	447	448	448	448	448	448	448	448	448	448	449	449	449	449	449	449	449	450	450
TT-2105	Ξ	Back-End	Temp.	Ļ		864	864	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	864	864
AR-2401	Shale	Feed	Rate	to		22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	23.0	23.0	23.0	23.0	23.0	23.0	23.0
PT-2302	LLGF	Atomization	Pressure	isd		50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.9	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	51.2	51.6	51.9	52.3	52.6	52.8	53.1	53.2	53.3	53.4	53.5	53.6
MM-2401	LLGF	Feed	Rate	mdb		10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.0	10.0	10.0	10.0	10.0	10.1
Tag No.		Parameter		Units	Date / IIme	10/20/2010 09:30	10/20/2010 09:31	10/20/2010 09:32	10/20/2010 09:33	10/20/2010 09:34	10/20/2010 09:35	10/20/2010 09:36	10/20/2010 09:37	10/20/2010 09:38	10/20/2010 09:39	10/20/2010 09:40	10/20/2010 09:41	10/20/2010 09:42	10/20/2010 09:43	10/20/2010 09:44	10/20/2010 09:45	10/20/2010 09:46	10/20/2010 09:47	10/20/2010 09:48	10/20/2010 09:49	10/20/2010 09:50	10/20/2010 09:51	10/20/2010 09:52	10/20/2010 09:53	10/20/2010 09:54	10/20/2010 09:55	10/20/2010 09:56	10/20/2010 09:57	10/20/2010 09:58	10/20/2010 09:59	10/20/2010 10:00	10/20/2010 10:01

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32 Process and CEM Operating Parameters

ag No.	IVIIVI-Z401	F1-2302	AK-2401	cntz-11	11-2403	DF1-2104	F -5555	XO7-4007 F6-187	AOZ-611 / F6-2/9
	LLGF	LLGF	Shale	돐	Heat	둙	Flue Gas	· CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
-	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	udŝ	psi	tph	ŗ.	<u>ዙ</u>	in. H ₂ O	wet scfm	mdd	% vol.
Jate / Ime	7	1		,,,,	0.17		250.00		4 7
Z0:01.010Z/0Z/01.	10.1	53.7	23.0	804	450	-0.4	33,875	29.0	14.9
10/20/2010 10:03	10.1	53.8	23.0	864	450	-0.4	33,875	29.0	14.8
10/20/2010 10:04	10.1	53.9	23.0	864	450	-0.4	33,896	29.0	14.8
10/20/2010 10:05	10.1	54.0	23.0	864	450	-0.4	33,896	29.0	14.8
10/20/2010 10:06	10.1	54.2	23.0	864	450	-0.4	33,896	28.0	14.8
10/20/2010 10:07	10.1	54.3	23.1	864	450	-0.4	33,917	28.0	14.8
10/20/2010 10:08	10.1	54.4	23.1	864	450	-0.4	33,938	28.0	14.8
10/20/2010 10:09	10.1	54.5	23.1	864	450	-0.3	33,938	28.0	14.8
10/20/2010 10:10	10.1	54.6	23.1	864	450	-0.4	33,959	28.0	14.8
10/20/2010 10:11	10.1	54.7	23.1	864	450	-0.4	33,980	28.0	14.8
10/20/2010 10:12	10.1	54.9	23.1	864	451	-0.4	33,980	28.0	14.8
10/20/2010 10:13	10.0	55.1	23.1	864	451	-0.4	33,980	28.0	14.8
10/20/2010 10:14	10.1	55.2	23.1	864	451	-0.4	33,980	28.0	14.9
10/20/2010 10:15	10.1	55.3	23.1	864	451	-0.4	34,001	28.0	14.9
10/20/2010 10:16	10.1	55.3	23.1	864	451	-0.4	34,001	28.0	14.9
10/20/2010 10:17	10.1	55.5	23.1	864	450	-0.4	34,022	28.0	14.9
10/20/2010 10:18	10.1	55.7	23.2	864	450	-0.4	34,022	28.0	14.9
10/20/2010 10:19	10.1	56.0	23.2	864	450	-0.3	34,022	28.0	14.9
10/20/2010 10:20	10.1	56.2	23.2	864	450	-0.4	34,022	28.0	14.9
10/20/2010 10:21	10.1	56.3	23.2	864	450	-0.4	34,022	28.0	14.9
10/20/2010 10:22	10.0	i i	23.2	864	450	-0.4	34,022	28.0	14.9
10/20/2010 10:23	10.0	56.5	23.2	864	450	-0.5	34,022	28.0	14.9
10/20/2010 10:24	10.0	56.6	23.2	864	450	-0.4	34,043	28.0	14.9
10/20/2010 10:25	10.1	56.7	23.2	864	450	-0.5	34,043	28.0	14.9
10/20/2010 10:26	10.1	56.8	23.2	864	450	-0.4	34,043	28.0	14.9
10/20/2010 10:27	10.1	56.9	23.2	864	450	-0.4	34,043	28.0	14.9
10/20/2010 10:28	10.1	57.0	23.2	864	450	-0.3	34,064	28.0	14.9
10/20/2010 10:29	10.1	57.1	23.2	864	450	-0.3	34,064	28.0	14.9
10/20/2010 10:30	10.1	57.2	23.3	864	450	-0.4	34,064	28.0	14.9
10/20/2010 10:31	10.1	57.3	23.3	864	450	-0.3	34,064	28.0	14.9
10/20/2010 10:32	10.1	57.4	23.3	864	450	-0.4	34,064	28.0	14.9
10/20/2010 10:33	10.1	57.5	23.3	864	450	-0.3	34,064	28.0	14.9

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32

Process and CEM Operating Parameters

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AO2-611 / F6-279		Oxygen	Concentration	% vol.		14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
XO7-400 / F6-187	CO Concentration	corrected to	7% O ₂	шdd		28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0
FT-5555	Flue Gas	Flow	Rate	wet scfm		34,085	34,064	34,064	34,064	34,064	34,043	34,043	34,043	34,043	34,022	34,022	34,022	34,022	34,022	34,022	34,022	34,001	34,001	33,980	33,959	33,959	33,917	33,896	33,896	33,875	33,854	33,854	33,833	33,812	33,812	33,812	33,812
DPT-2104	돌	Hood	Pressure	in. H ₂ O		-0.4	-0.4	-0.3	-0.4	-0.3	-0.3	-0.3	-0.2	-0.5	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.3	-0.4
TT-2403	Heat	Exchanger	Exit	ዙ		450	450	450	450	450	450	450	450	450	451	451	451	451	451	451	451	451	451	451	451	451	451	450	450	450	450	450	450	450	450	450	450
TT-2105	Xiin	Back-End	Temp.	ኩ		864	864	864	865	865	865	865	985	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865	865
AR-2401	Shale	Feed	Rate	tþ		23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3
PT-2302	LLGF	Atomization	Pressure	psi		9.73	57.7	57.8	57.9	58.0	58.2	58.3	58.4	58.5	58.6	58.7	58.8	58.9	59.0	59.1	59.2	58.9	58.7	58.4	58.2	58.0	57.8	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6
MM-2401	LGF	Feed	Rate	mdb		10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.1	10.1	10.1	10.1
Tag No.		Parameter		Units	Date / Time	10/20/2010 10:34	10/20/2010 10:35	10/20/2010 10:36	10/20/2010 10:37	10/20/2010 10:38	10/20/2010 10:39	10/20/2010 10:40	10/20/2010 10:41	10/20/2010 10:42	10/20/2010 10:43	10/20/2010 10:44	10/20/2010 10:45	10/20/2010 10:46	10/20/2010 10:47	10/20/2010 10:48	10/20/2010 10:49	10/20/2010 10:50	10/20/2010 10:51	10/20/2010 10:52	10/20/2010 10:53	10/20/2010 10:54	10/20/2010 10:55	10/20/2010 10:56	10/20/2010 10:57	10/20/2010 10:58	10/20/2010 10:59	10/20/2010 11:00	10/20/2010 11:01	10/20/2010 11:02	10/20/2010 11:03	10/20/2010 11:04	10/20/2010 11:05

October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Parameter Units Date / Time		12004	AR-740	CO17-11	11-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
Parameter Units Date / Time	LGF	LLGF	Shale	Kiin	Heat	Kiln	Flue Gas	CO Concentration	
Units Date / Time	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
Units Date / Time	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
	mds	psi	tbh	ኍ	÷	in. H ₂ 0	wet scfm	mdd	% vol.
40/20/2040 44:0E	7	27.2	0000	800	017		20E CC		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
10/20/2010 11:00		0.10	23.0	000	450	4.0-	33,731	78.0	14.9
10/20/2010 11:07	10.1	57.6	23.3	865	450	-0.4	33,791	28.0	14.9
10/20/2010 11:08	10.1	57.6	23.3	865	450	-0.4	33,770	28.0	14.9
10/20/2010 11:09	10.1	57.6	23.3	865	450	-0.4	33,749	28.0	14.9
10/20/2010 11:10	10.1	57.6	23.3	865	450	-0.4	33,749	28.0	14.9
10/20/2010 11:11	10.1	57.6	23.3	865	450	-0.5	33,728	28.0	14.9
10/20/2010 11:12	10.1	57.4	23.3	865	450	-0.5	33,707	28.0	14.9
10/20/2010 11:13	10.1	57.3	23.3	865	450	-0.5	33,707	28.0	14.9
10/20/2010 11:14	10.1	57.4	23.3	864	450	-0.5	33,707	28.0	14.9
10/20/2010 11:15	10.1	57.4	23.3	864	450	-0.2	33,707	28.0	14.9
10/20/2010 11:16	10.1	57.4	23.3	864	450	-0.2	33,686	28.0	14.9
10/20/2010 11:17	10.1	57.4	23.3	864	450	-0.2	33,686	28.0	14.9
10/20/2010 11:18	10.2	57.2	23.3	864	450	-0.3	33,707	28.0	14.9
10/20/2010 11:19	10.2	57.1	23.3	865	450	-0.4	33,686	28.0	15.0
10/20/2010 11:20	10.2	57.0	23.3	865	451	-0.4	33,686	28.0	14.9
10/20/2010 11:21	10.2	57.0	23.3	865	451	-0.4	33,686	28.0	14.9
10/20/2010 11:22	10.2	57.0	23.3	865	451	-0.4	33,686	28.0	14.9
10/20/2010 11:23	10.2	57.0	23.3	865	451	-0.4	33,686	28.0	14.9
10/20/2010 11:24	10.2	57.0	23.3	865	451	-0.5	33,686	28.0	14.9
10/20/2010 11:25	10.1	56.9	23.3	865	451	-0.4	33,665	28.0	14.9
10/20/2010 11:26	10.1	56.9	23.3	865	451	-0.4	33,665	28.0	15.0
10/20/2010 11:27	10.1	56.9	23.3	865	451	-0.4	33,665	28.0	15.0
10/20/2010 11:28	10.1	56.9	23.3	865	451	-0.4	33,644	28.0	15.0
10/20/2010 11:29	10.1	56.9	23.3	865	451	-0.4	33,644	28.0	15.0
10/20/2010 11:30	10.2	56.9	23.3	865	451	-0.3	33,644	28.0	15.0
10/20/2010 11:31	10.2	56.9	23.3	865	451	4.0-	33,644	28.0	15.0
10/20/2010 11:32	10.2	56.9	23.3	865	451	-0.4	33,623	28.0	15.0
10/20/2010 11:33	10.2	57.0	23.3	865	451	-0.4	33,623	28.0	15.0
10/20/2010 11:34	10.2	57.0	23.3	865	451	-0.4	33,623	28.0	15.0
10/20/2010 11:35	10.2	67.0	23.3	865	451	-0.4	33,623	28.0	15.0
10/20/2010 11:36	10.2	57.0	23.3	865	451	-0.4	33,623	28.0	15.0
10/20/2010 11:37	10.2	57.0	23.3	865	451	-0.4	33,623	28.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32 Process and CEM Operating Parameters

	1000	CO.CC T.C.	7070	TT 040E	2403	TO 7070	1434	707 400 1 00 407	000 011 100 000
		7027	1042-00	2012-11	50+7-11	DF 1-2104	0000-1-	101-0-1004-10V	AOZ-01110-20A
-	LGF	5	Shale	Z E	Heat	Z E	Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exi	Pressure	Rate	7% O ₂	Concentration
Units Date / Time	mdb	isd	tph	Ů-	Ľ.	in. H ₂ O	wet scfm	mdd	% vol.
10/20/2010 11:38	10.2	56.9	23.3	865	451	-0.4	33,623	28.0	15.0
10/20/2010 11:39	10.2	57.0	23.3	998	451	-0.5	33,602	28.0	15.0
10/20/2010 11:40	10.2	57.0	23.3	998	451	-0.4	33,602	28.0	15.0
10/20/2010 11:41	10.2	57.0	23.3	998	451	-0.4	33,581	28.0	15.0
10/20/2010 11:42	10.2	57.0	23.3	998	451	-0.4	33,581	28.0	15.0
10/20/2010 11:43	10.1	57.0	23.3	998	451	-0.4	33,560	28.0	15.0
10/20/2010 11:44	10.2	57.0	23.3	998	451	-0.4	33,539	29.0	15.0
10/20/2010 11:45	10.2	57.0	23.3	866	451	-0.4	33,539	29.0	15.0
10/20/2010 11:46	10.2	57.0	23.3	866	451	-0.4	33,539	29.0	15.0
10/20/2010 11:47	10.2	57.0	23.3	998	451	-0.4	33,539	29.0	15.0
10/20/2010 11:48	10.2	57.0	23.3	866	451	-0.4	33,539	29.0	15.0
10/20/2010 11:49	10.2	57.0	23.3	998	451	-0.4 4.0	33,539	29.0	15.0
10/20/2010 11:50	10.2	57.0	23.3	998	451	-0.3	33,560	29.0	15.0
10/20/2010 11:51	10.2	57.0		966	451	-0.4	33,581	29.0	15.0
10/20/2010 11:52	10.2	57.0	23.3	998	451	-0.3	33,602	29.0	15.0
10/20/2010 11:53	10.2	57.0	23.3	998	451	-0.4	33,623	29.0	15.1
10/20/2010 11:54	10.2	57.0	23.3	867	451	-0.3	33,644	29.0	15.0
10/20/2010 11:55	10.2	57.0	23.3	867	451	-0.4	33,665	29.0	15.0
10/20/2010 11:56	10.2	57.0	23.3	867	450	-0.4	33,686	29.0	15.0
10/20/2010 11:57	10.2	57.0	23.3	867	450	-0.3	33,707	29.0	15.0
10/20/2010 11:58	10.2	56.9	23.3	867	450	-0.4	33,728	29.0	15.0
10/20/2010 11:59	10.2	56.9	23.3	867	450	-0.4	33,749	29.0	15.0
10/20/2010 12:00	10.2	56.9	23.3	867	450	-0.4	33,770	29.0	15.0
10/20/2010 12:01	10.2	57.0	23.3	867	450	-0.4	33,791	29.0	15.0
10/20/2010 12:02	10.2	56.9	23.3	867	450	-0.4	33,812	29.0	15.0
10/20/2010 12:03	10.2	56.9	23.3	867	450	-0.5	33,812	29.0	15.0
10/20/2010 12:04	10.2	56.9	23.3	867	450	-0.4	33,833	29.0	15.0
10/20/2010 12:05	10.2	56.9	23.3	867	450	-0.5	33,854	29.0	15.0
10/20/2010 12:06	10.2	56.9	23.3	867	450	-0.5	33,875	29.0	15.0
10/20/2010 12:07	10.2	56.9	23.3	867	450	-0.4	33,917	29.0	15.0
10/20/2010 12:08	10.2	56.9	23.3	298	450	-0.5	33,917	29.0	15.0
10/20/2010 12:09	10.2	26.9	23.3	867	450	-0.4	33,959	29.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32

Process and CEM Operating Parameters

		Exchanger Exit PF 449 449 449 449 450 450 450 450 450 450 450 450 450 460 460 449		Back-End Exchanger Temp. Exit	Back-End Exchanger Temp. Exit
H ₂ O	<u> </u>	## Exit ### ### ### ### ### ### #### #### ##	Exit % F 450 449 449 450 450 450 450 449 449 449 449 449 449	Famp. Exit PF PF PF PF 867 449 867 449 867 449 868 450 868 450 868 450 868 450 868 450 868 450 868 450 868 450 868 450 868 450 868 450 868 450 868 450 868 868 868 450 868 868 868 450 868 868 868 869 868 867 868 867 868 867 868 867 867 449	Rate Temp. Exit tph °F °F 23.3 867 449 23.3 867 449 23.3 867 449 23.3 867 449 23.3 868 450 23.3 868 450 23.3 868 450 23.3 868 450 23.3 868 450 23.3 867 449 23.3 867 449 23.3 867 449
in. H ₂ O -0.2				867 867 867 868 868 868 868 868 868 868	23.3 867 23.3 867 23.3 867 23.3 867 23.3 868 23.3 868 23.3 868 23.3 868 23.3 868 23.3 868 23.3 868 23.3 867 23.3 868 23.3 867 23.3 867 23.3 867 23.3 867
-0.2				867 867 867 868 868 868 868 868 867 867	23.3 867 23.3 867 23.3 867 23.3 867 23.3 868 23.3 868 23.3 868 23.3 868 23.3 868 23.3 868 23.3 867 23.3 867 23.3 867 23.3 867 23.3 867 23.3 867
-0.2				867 867 867 868 868 868 868 868 867 867	23.3 867 23.3 867 23.3 867 23.3 868 23.3 868 23.3 868 23.3 868 23.3 868 23.3 868 23.3 867 23.3 867 23.3 867 23.3 867
				867 867 868 868 868 868 868 867 867	23.3 867 23.3 867 23.3 868 23.3 868 23.3 868 23.3 868 23.3 868 23.3 867 23.3 867 23.3 867 23.3 867 23.3 867
-0.3				868 868 868 868 868 868 867 867	23.3 867 23.3 867 23.3 868 23.3 868 23.3 868 23.3 868 23.3 867 23.3 867 23.3 867 23.3 867 23.3 867
-0.4				868 868 868 868 868 867 867 867	23.3 867 23.3 868 23.3 868 23.3 868 23.3 868 23.3 867 23.3 867 23.3 867 23.3 867 23.3 867
-0.3				868 868 868 868 867 867 867	23.3 868 23.3 868 23.3 868 23.3 868 23.3 867 23.3 867 23.3 867 23.3 867
-0.4				868 868 868 868 867 867 867	23.3 868 23.3 868 23.3 868 23.3 868 23.3 867 23.3 867 23.3 867
-0.4				868 868 867 867 867	23.3 868 23.3 868 23.3 868 23.3 867 23.3 867 23.3 867
-0.4				868 867 867 867	23.3 868 23.3 868 23.3 867 23.3 867 23.3 867 23.3 867
-0.4				868 867 867 867	23.3 868 23.3 867 23.3 867 23.3 867 23.3 867
-0.4		449		867 867 867	23.3 867 23.3 867 23.3 867
-0.4		449		867 867	23.3 867
-0.4	i	449		867	23.3 867
-0.4					
-0.4		449		867	23.3 867
-0.4		449	867 449		867
-0.5		449	867 449	:	867
-0.4		449	867 449	867	867
-0.5	- 1	449	867 449		867
-0.4	- 1	449	867 449		867
-0.5		449	867 449		867
-0.5	- 1	449	867 449		867
-0.4		449	867 449		867
-0.4		449	867 449		867
-0.4		450	865 450		865
-0.5		447	864 447		864
,	i		868 451		898

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02 Process and CEM Operating Parameters

Tag No	MMA-2404	DT-2302	AD 2404	TT 210E	TT 2403	TO 2404 ET	CT GGGG	VO7 400 / E8 407	070 644 / E6 070
, , ,	244	7007-	1042710	2012	2047-11	10.7.	- i	101-0-1004-10V	MOZ-011110-713
	ברפר	הרפו	Snale		неат	SIN .	Flue Gas	CO Concentration	-
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdg	psi	ф	Ľ.	ų.	in. H ₂ O	wet scfm	mdd	% vol.
Date / Time									
10/20/2010 13:00	10.3	57.7	23,3	965	451	-0.4	34,379	30.0	15.0
10/20/2010 13:01	10.3	57.7	23.3	865	451	-0.3	34,379	30.0	15.0
10/20/2010 13:02	10.3	57.7	23.3	865	451	-0.5	34,358	30.0	15.0
10/20/2010 13:03	10.3	57.7	23.3	865	451	-0.4	34,337	30.0	15.0
10/20/2010 13:04	10.3	57.7	23.3	865	452	-0.4	34,337	30.0	15.0
10/20/2010 13:05	10.3	57.7	23.3	865	452	-0.4	34,316	30.0	15.0
10/20/2010 13:06	10.3	57.7	23.3	998	452	-0.4	34,295	30.0	15.0
10/20/2010 13:07	10.3	57.7	23.3	998	452	-0.4	34,274	30.0	15.0
10/20/2010 13:08	10.3	57.7	23.3	998	452	-0.4	34,274	30.0	15.0
10/20/2010 13:09	10.3	57.7	23.3	998	452	-0.4	34,253	30.0	15.0
10/20/2010 13:10	10.3	57.7	23.3	998	452	-0.4	34,232	31.0	15.0
10/20/2010 13:11	10.3	57.7	23.3	998	452	-0.4	34,211	31.0	15.0
10/20/2010 13:12	10.3	57.7	23.3	998	452	-0.4	34,190	31.0	15.0
10/20/2010 13:13	10.3	57.7	23.3	998	452	-0.4	34,169	31.0	15.0
10/20/2010 13:14	10.3	57.7	23.3	998	452	-0.5	34,148	31.0	15.0
10/20/2010 13:15	10.3	57.6	23.3	866	452	-0.4	34,148	31.0	15.0
10/20/2010 13:16	10.3	57.6	23.3	998	452	-0.4	34,127	31.0	15.0
10/20/2010 13:17	10.3	57.5	23.3	866	452	-0.4	34,127	31.0	15.0
10/20/2010 13:18	10.3	57.5	23.3	866	452	-0.4	34,106	31.0	15.0
10/20/2010 13:19	10.3	57.4	23.3	998	452	-0.5	34,085	31.0	15.0
10/20/2010 13:20	10.3	57.4	23.3	966	452	-0.4	34,064	31.0	15.0
10/20/2010 13:21	10.3	57.4	23.3	998	452	-0.4	34,043	31.0	15.0
10/20/2010 13:22	10.3	57.3	23.3	998	452	-0.4	34,043	31.0	15.0
10/20/2010 13:23	10.3	57.3	23.3	998	452	-0.5	34,022	31.0	15.0
10/20/2010 13:24	10.3	57.2	23.3	998	452	-0.5	34,001	31.0	15.0
10/20/2010 13:25	10.3	57.2	23.3	998	452	-0.4	33,980	31.0	15.0
10/20/2010 13:26	10.3	57.2	23.3	998	452	-0.4	33,980	31.0	15.1
10/20/2010 13:27	10.3	57.1	23.3	866	452	-0.5	33,959	31.0	15.1
10/20/2010 13:28	10.3	57.1	23.3	998	452	4.0-	33,959	31.0	15.1
10/20/2010 13:29	10.2	57.0	23.3	986	452	-0.4	33,938	31.0	15.1
10/20/2010 13:30	10.2	56.9	23.3	998	452	-0.4	33,938	31.0	15.1
10/20/2010 13:31	10.2	56.9	23.3	998	452	-0.5	33,917	31.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02
Process and CEM Operating Parameters

I ON DET	MANA_2404	DT-2302	AB-2404	TT-2405	TT-9403	NDT.2404	ET	XO7_400 / ER_187	ACO_844 / E8.970
, ,	19. I	1332 - 1 19 11	Shale		H ted	7 2 1 1 1	Fills Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxvaen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units Date / Time	mdg	psi	tot	ĥ	îr.	in. H ₂ O	wet scfm	mdd	% vol.
10/20/2010 13:32	10.2	56.8	23.3	998	452	-0.4	33,917	31.0	15.0
10/20/2010 13:33	10.2	56.7	23.3	866	452	-0.4	33,917	31.0	15.0
10/20/2010 13:34	10.3	56.8	23.3	998	452	-0.4	33,917	32.0	15.1
10/20/2010 13:35	10.3	56.6	23.3	998	452	-0.5	33,917	32.0	15.1
10/20/2010 13:36	10.3	56.5	23.3	998	452	-0.4	33,896	32.0	15.0
10/20/2010 13:37	10.3	56.4	23.3	998	452	-0.4	33,917	32.0	15.0
10/20/2010 13:38	10.2	56.3	23.3	998	452	-0.4	33,917	32.0	15.0
10/20/2010 13:39	10.2	56.1	23.3	867	452	-0.4	33,917	32.0	15.0
10/20/2010 13:40	10.2	56.0	23.3	867	452	-0.4	33,917	32.0	15.0
10/20/2010 13:41	10.2	55.9	23.3	867	452	-0.4	33,917	32.0	15.0
10/20/2010 13:42	10.3	55.7	23.3	867	452	-0.5	33,917	32.0	15.0
10/20/2010 13:43	10.3	55.5	23.3	867	452	-0.5	33,917	32.0	15.0
10/20/2010 13:44	10.3	55.3	23.3	867	452	-0.4	33,917	32.0	.15.0
10/20/2010 13:45	10.3	55.1	23.3	867	452	-0.4	33,917	32.0	15.0
10/20/2010 13:46	10.2	55.0	23.3	867	452	-0.4	33,896	32.0	15.0
10/20/2010 13:47	10.2	54.9	23.3	867	452	-0.4	33,896	32.0	15.0
10/20/2010 13:48	10.2	54.8	23.3	867	452	-0.5	33,896	32.0	15.0
10/20/2010 13:49	10.2	54.7.	23.3	867	452	-0.4	33,896	32.0	15.0
10/20/2010 13:50	10.2	54.6	23.3	867	452	-0.4	33,896	32.0	15.0
10/20/2010 13:51	10.2	54.5	23.3	867	452	-0.4	33,875	32.0	15.0
10/20/2010 13:52	10.2	54.4	23.3	867	452	-0.4	33,875	32.0	15.0
10/20/2010 13:53	10.2	54.3	23.3	867	452	-0.4	33,854	32.0	15.0
10/20/2010 13:54	10.2	54.2	23.3	867	452	-0.4	33,854	32.0	15.0
10/20/2010 13:55	10.2	54.1	23.3	867	451	-0.4	33,833	32.0	15.0
10/20/2010 13:56	10.2	54.0	23.3	867	451	-0.4	33,812	32.0	15.0
10/20/2010 13:57	10.2	53.9	23.3	867	451	-0.4	33,812	32.0	15.0
10/20/2010 13:58	10.2	53.8	23.3	867	451	-0.5	33,812	32.0	15.0
10/20/2010 13:59	10.2	53.7	23.3	867	451	-0.4	33,833	32.0	15.0
10/20/2010 14:00	10.2	53.6	23.3	867	451	-0.4	33,833	32.0	15.0
10/20/2010 14:01	10.2	53.5	23.3	867	451	-0.4	33,833	32.0	15.0
10/20/2010 14:02	10.2	53.4	23.3	867	451	-0.4	33,854	32.0	15.0
10/20/2010 14:03	10.2	53.3	23.3	867	451	-0.4	33,854	32.0	15.0

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October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02 Norlite Corporation - Cohoes, NY - MACT CPT 2010

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oN pet	MAM-2401	DT_2302	AB-2401	TT-2405	TT_2403	NDT 2404	ET 6656	YO7_400 / E8 187	ACO 841 / ER 970
	3011	105	olods	2014	1004	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0000-1-1	CO Centration	617-01110-700
	ב פ	LLGF	Shale		неат	<u> </u>	FIUe Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdb	psi	tph	_ት	ŗ.	in. H ₂ 0	wet scfm	mdd	% vol.
Date / Time									
10/20/2010 14:04	10.2	53.2	23.3	867	451	-0.4	33,854	32.0	15.0
10/20/2010 14:05	10.2	53.1	23.3	867	451	-0.5	33,875	33.0	15.0
10/20/2010 14:06	10.2	53.0	23.3	867	451	-0.5	33,875	33.0	15.0
10/20/2010 14:07	10.2	52.9	23.3	867	451	0.5	33,875	33.0	15.0
10/20/2010 14:08	10.2	52.8	23.3	867	451	-0.6	33,896	33.0	15.0
10/20/2010 14:09	10.2	52.7	23.3	867	451	-0.5	33,896	33.0	15.0
10/20/2010 14:10	10.2	52.6	23.3	867	451	-0.5	33,896	33.0	15.0
10/20/2010 14:11	10.2	52.6	23.3	867	451	-0.3	33,917	33.0	15.0
10/20/2010 14:12	10.2	52.5	23.3	867	451	-0.3	33,917	33.0	15.0
10/20/2010 14:13	10.3	52.4	23.3	867	451	-0.4	33,938	33.0	15.0
10/20/2010 14:14	10.3	52.3	23.3	867	451	-0.4	33,938	33.0	15.0
10/20/2010 14:15	10.3	52.3	23.3	867	451	-0.4	33,938	33.0	15.0
10/20/2010 14:16	10.3	52.2	23.3	867	451	-0.4	33,959	33.0	15.0
10/20/2010 14:17	10.3	52.2	23.3	867	451	-0.5	33,938	33.0	15.0
10/20/2010 14:18	10.3	52.1	23.3	867	451	-0.5	33,959	33.0	15.0
10/20/2010 14:19	10.3	52.1	23.3	867	451	-0.4	33,959	33.0	15.0
10/20/2010 14:20	10.3	52.0	23.3	867	451	-0.5	33,980	33.0	15.0
10/20/2010 14:21	10.3	52.0	23.3	867	451	-0.4	33,980	33.0	15.0
10/20/2010 14:22	10.3	51.9	23.3	867	451	-0.4	33,980	33.0	15.0
10/20/2010 14:23	10.3	51.8	23.3	867	451	-0.4	34,001	33.0	15.0
10/20/2010 14:24	10.3	51.8	23.3	867	451	-0.4	34,001	33.0	15.0
10/20/2010 14:25	10.3	51.7	23.3	867	451	-0.5	34,001	33.0	15.0
10/20/2010 14:26	10.3	51.7	23.3	867	451	-0.4	34,001	33.0	15.0
10/20/2010 14:27	10.3	51.6	23.3	867	451	-0.5	34,001	33.0	15.0
10/20/2010 14:28	10.3	51.6	23.3	867	451	-0.4	34,022	33.0	15.0
10/20/2010 14:29	10.3	51.5	23.3	867	451	-0.5	34,022	33.0	15.0
10/20/2010 14:30	10.3	51.5	23.3	868	451	-0.5	34,022	33.0	15.0
10/20/2010 14:31	10.3	51.5	23.3	868	451	-0.4	34,043	33.0	15.0
10/20/2010 14:32	10.3	51.4	23.3	868	451	-0.5	34,043	33.0	15.0
10/20/2010 14:33	10.3	51.4	23.3	868	451	-0.4	34,043	33.0	15.0
10/20/2010 14:34	10.3	51.4	23,3	898	451	-0.5	34,043	33.0	15.0
10/20/2010 14:35	10.3	51,3	23.3	898	451	-0.5	34,043	33.0	15.0

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Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02
Process and CEM Operating Parameters

			Ш	Ш					
ag No.	MM-2401	P1-2302	AR-2401	1.1-2105	11-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	Ķii	Heat	ž	Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	шфб	psi	tph	ř	Ļ	in. H ₂ O	wet scfm	шdd	% vol.
10/20/2010 14:38	10.2	E4 2	20,00	000	757	u c	24.042	Ç Ç	
10/20/2010	5.0.5	5. 5.	20.0	900	104	C.V.	34,043	33.0	15.0
10/20/2010 14:37	10.3	5.1.0	23.3	808	451	ç. Ç	34,043	33.0	15.0
10/20/2010 14:38	10.3	51.2	23.3	868	451	-0.4	34,043	33.0	15.0
10/20/2010 14:39	10.3	51.2	23.3	898	451	-0.5	34,043	34.0	15.0
10/20/2010 14:40	10.3	51.1	23.3	868	451	-0.4	34,022	34.0	15.0
10/20/2010 14:41	10.3	51.1	23.3	868	451	-0.4	34,022	34.0	15.0
10/20/2010 14:42	10.3	51.1	23.3	868	451	-0.5	34,043	34.0	15.0
10/20/2010 14:43	10.3	51.1	23.3	867	451	-0.4	34,043	34.0	15.0
10/20/2010 14:44	10.3	51.1	23.3	867	451	-0.4	34,043	34,0	15.1
10/20/2010 14:45	10.3	51.1	23.3	867	451	-0.4	34,043	34.0	15.1
10/20/2010 14:46	10.3	51.1	23.3	867	451	-0.4	34,043	34.0	15.1
10/20/2010 14:47	10.3	51.1	23.3	867	451	-0.5	34,043	34.0	15.1
10/20/2010 14:48	10.3	51.1	23.3	867	452	-0.5	34,043	34.0	15.1
10/20/2010 14:49	10.3	51.1	23.3	867	452	-0.5	34,022	34.0	15.1
10/20/2010 14:50	10.3	51.1	23.3	867	452	-0.5	34,022	34.0	15.1
10/20/2010 14:51	10.3	51.1	23.3	867	452	-0.5	34,043	34.0	15.1
10/20/2010 14:52	10.3	51.1	23.3	867	452	-0.4	34,043	34.0	15.1
10/20/2010 14:53	10.3	51.1	23.3	867	452	-0.3	34,064	34.0	15.1
10/20/2010 14:54	10.3	51.1	23.3	867	452	-0.5	34,064	34.0	15.1
10/20/2010 14:55	10.3	51.1	23.3	867	452	-0.4	34,064	34.0	15.1
10/20/2010 14:56	10.3	51.1	23.3	867	452	-0.4	34,064	34.0	15.1
10/20/2010 14:57	10.3	51.1	23.3	867	452	-0.5	34,064	34.0	15.1
10/20/2010 14:58	10.3	51.1	23.3	867	452	-0.5	34,043	34.0	15.1
10/20/2010 14:59	10.3	51.1	23.3	867	452	-0.5	34,001	34.0	15.1
10/20/2010 15:00	10.3	51.1	23.3	867	452	-0.4	34,001	34.0	15.1
10/20/2010 15:01	10.3	51.1	23.3	867	452	-0.5	33,980	34.0	15.1
10/20/2010 15:02	10.3	51.2	23.3	867	452	-0.5	33,959	34.0	15.1
10/20/2010 15:03	10.3	51.2	23.3	867	452	-0.5	33,917	34.0	15.1
10/20/2010 15:04	10.3	51.2	23.3	867	452	-0.5	33,896	34.0	15.1
10/20/2010 15:05	10.3	51.2	23.3	867	452	-0.4	33,875	34.0	15.1
10/20/2010 15:06	10.3	51.2	23.3	867	452	-0.5	33,854	34.0	15.1
10/20/2010 15:07	10.3	51.2	23.3	867	452	-0.4	33,833	34.0	15.1

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Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02

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Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	ΑË	Heat	Ķ	Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdb	psi	tph	Ļ	Ļ	in. H ₂ O	wet scfm	mdd	% vol.
Date / Time									
10/20/2010 15:08	10.3	51.2	23.3	298	452	-0.5	33,812	34.0	15.1
10/20/2010 15:09	10.3	51.2	23.3	868	452	-0.5	33,812	34.0	15.1
10/20/2010 15:10	10.3	51.2	23.3	868	452	-0.4	33,791	34.0	15.1
10/20/2010 15:11	10.3	51.2	23.3	868	452	-0.5	33,770	34.0	15.1
10/20/2010 15:12	10.3	51.2	23.3	868	452	-0.4	33,749	34.0	15.1
10/20/2010 15:13	10.3	51.2	23.3	868	452	-0.4	33,728	34.0	15.1
10/20/2010 15:14	10.3	51.1	23.3	868	452	-0.5	33,728	34.0	15.1
10/20/2010 15:15	10.3	51.1	23.3	868	452	-0.4	33,707	35.0	15.1
10/20/2010 15:16	10.3	51.1	23.3	868	452	-0.5	33,707	35.0	15.1
10/20/2010 15:17	10.3	51.2	23.3	867	452	-0.4	33,686	35.0	15.1
10/20/2010 15:18	10.3	51.2	23.3	867	452	-0.4	33,665	35.0	15.1
10/20/2010 15:19	10.3	51.2	23.3	867	452	-0.4	33,644	35.0	15.1
10/20/2010 15:20	10.3	51.2	23.3	867	452	-0.4	33,644	35.0	15.1
10/20/2010 15:21	10.3	51.2	23.3	867	452	-0.4	33,644	35.0	15.1
10/20/2010 15:22	10.3	51.2	23.3	867	452	-0.4	33,623	35.0	15.1
10/20/2010 15:23	10.3	51.2	23.3	298	452	-0.4	33,602	35.0	15.1
10/20/2010 15:24	10.3	51.2	23.3	867	452	-0.4	33,581	35.0	15.1
10/20/2010 15:25	10.3	51.2	23.3	867	452	-0.4	33,581	35.0	15.1
10/20/2010 15:26	10.3	51.2	23.3	298	452	-0.4	33,560	35.0	15.1
10/20/2010 15:27	10.3	51.1		867	452	-0.4	33,539	35.0	15.0
10/20/2010 15:28	10.3	51.1	23.3	867	452	-0.4	33,518	35.0	15.0
10/20/2010 15:29	10.3	51.2	23.3	867	452	-0.4	33,518	35.0	15.0
10/20/2010 15:30	10.3	51.2	23.3	867	452	-0.4	33,497	34.0	15.0
10/20/2010 15:31	10.3	51.2	23.3	867	452	-0.4	33,497	34.0	15.0
10/20/2010 15:32	10.3	51.2	23.3	867	452	-0.3	33,476	34.0	15.0
10/20/2010 15:33	10.3	51.2	23.3	867	452	-0.5	33,476	34.0	15.0
10/20/2010 15:34	10.3	51.2	23.3	867	452	-0.4	33,455	34.0	15.0
10/20/2010 15:35	10.3	51.2	23.3	867	452	-0.4	33,455	34.0	15.0
10/20/2010 15:36	10.3	51.2	23.3	867	452	-0.5	33,434	34.0	15.0
10/20/2010 15:37	10.3	51.2	23.3	867	452	-0.4	33,434	34.0	15.0
10/20/2010 15:38	10.3	51.2	23.3	867	452	-0.4	33,413	34.0	15.0
10/20/2010 15:39	10.3	51.2	23.3	867	452	-0.4	33,413	34.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02 Process and CEM Operating Parameters

Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-210	4 FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	Kiln	Heat	Kiin	Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdb	isd	tph	ĥ	Ļ	in. H ₂ O	wet scfm	mdd	% vol.
Date / Time									
10/20/2010 15:40	10.3	51.2	23.3	867	452	-0.4	33,392	34.0	15.0
10/20/2010 15:41	10.3	51.2	23.3	867	452	-0.4	33,392	34.0	15.0
10/20/2010 15:42	10.3	51.2	23.3	867	452	-0.3	33,371	34.0	15.0
10/20/2010 15:43	10.3	51.2	23.3	867	452	-0.4	33,371	34.0	15.0
10/20/2010 15:44	10.3	51.2	23.3	867	452	-0.4	33,350	34.0	15.0
10/20/2010 15:45	10.3	51.2	23.3	867	452	-0.4	33,350	34.0	15.0
10/20/2010 15:46	10.3	51.2	23.3	867	452	-0.5	33,350	34.0	15.0
10/20/2010 15:47	10.3	51.2	23.3	867	452	-0.5	33,350	34.0	14.9
10/20/2010 15:48	10.3	51.2	23.3	867	452	-0.5	33,329	34.0	14.9
10/20/2010 15:49	10.3	51.2	23.3	867	452	-0.5	33,329	34.0	14.9
10/20/2010 15:50	10.3	51.2	23.3	867	452	-0.5	33,329	34.0	14.9
10/20/2010 15:51	10.3	51.2	23.3	867	452	-0.5	33,308	34.0	14.9
10/20/2010 15:52	10.3	51.2	23.3	867	452	-0.5	33,308	34.0	14.9
10/20/2010 15:53	10.3	51.2	23.3	867	452	-0.4	33,287	34.0	14.9
10/20/2010 15:54	10.3	51.2	23.3	867	452	-0.3	33,287	34.0	14.9
10/20/2010 15:55	10.3	51.1	23.3	867	451	-0.5	33,287	34.0	14.9
10/20/2010 15:56	10.3	51.1	23.3	867	451	-0.4	33,287	34.0	14.9
10/20/2010 15:57	10.3	51.1	23.3	867	451	-0.4	33,266	34.0	14.9
10/20/2010 15:58	10.3	51.1	23.3	867	451	-0.5	33,266	34.0	14.9
10/20/2010 15:59	10.3	51.1	23.3	867	451	-0.4	33,266	34.0	14.9
10/20/2010 16:00	10.3	51.1	23.3	867	451	-0.4	33,266	34.0	14.9
10/20/2010 16:01	10.3	51.1	23.3	867	451	-0.4	33,266	34.0	14.9
10/20/2010 16:02	10.3	51.1	23.3	867	451	-0.5	33,245	34.0	14.9
AVERAGE	10.3	53.1	23.3	867	452	-0.4	33,844	32.9	15.0
MINIMUM	10.2	51.1	23.3	865	451	9.0-	33,245	30.0	14.9
MAXIMUM	10.3	57.7	23.3	868	452	-0.3	34,379	35.0	15.1

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07

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ag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	출	Heat	Kiln	Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units Date / Time	шdб	psi	tph	îr.	Ļ	in. H ₂ O	wet scfm	шdd	% vol.
10/21/2010 09:04	10.3	35.1	24.8	867	449	-0.2	32,153	29.0	14.6
10/21/2010 09:05	10.3	35.0	24.8	867	449	-0.2	32,132	29.0	14.6
10/21/2010 09:06	10.3	34.9	24.8	867	449	-0.3	32,132	29.0	14.6
10/21/2010 09:07	10.3	34.9	24.8	298	449	-0.3	32,132	29.0	14.6
10/21/2010 09:08	10.3	34.8	24.8	867	449	-0.3	32,153	29.0	14.6
10/21/2010 09:09	10.3	34.8	24.8	998	449	-0.3	32,153	29.0	14.6
10/21/2010 09:10	10.3	34.7	24.8	866	449	-0.3	32,174	29.0	14.6
10/21/2010 09:11	10.3	34.7	24.8	866	449	-0.3	32,195	29.0	14.6
10/21/2010 09:12	10.3	34.6	24.8	866	449	-0.3	32,237	29.0	14.6
10/21/2010 09:13	10.3	34.6	24.8	867	449	-0.3	32,258	29.0	14.6
10/21/2010 09:14	10.3	34.5	24.8	867	449	-0.3	32,258	29.0	14.6
10/21/2010 09:15	10.3	34.5	24.8	867	449	-0.2	32,279	29.0	14.6
10/21/2010 09:16	10.3	34.4	24.8	867	449	-0.3	32,258	29.0	14.6
10/21/2010 09:17	10.3	34.3	24.8	867	450	-0.2	32,258	29.0	14.6
10/21/2010 09:18	10.3	34.3	24.8	867	450	-0.3	32,258	29.0	14.6
10/21/2010 09:19	10.3	34.2	24.8	867	450	-0.3	32,258	29.0	14.6
10/21/2010 09:20	10.3	34.1	24.8	867	450	-0.3	32,237	29.0	14.6
10/21/2010 09:21	10.3	34.1	24.8	867	450	-0.3	32,237	29.0	14.6
10/21/2010 09:22	10.3	34.0	24.8	867	450	-0.2	32,237	29.0	14.6
10/21/2010 09:23	10.3	33.9	24.8	867	450	-0.2	32,258	29.0	14.6
10/21/2010 09:24	10.3	33.8	24.8	867	450	-0.3	32,258	29.0	14.6
10/21/2010 09:25	10.3	33.7	24.8	867	450	-0.2	32,279	29.0	14.6
10/21/2010 09:26	10.3	33.7	24.8	867	450	-0.2	32,279	29.0	14.6
10/21/2010 09:27	10.3	33.7	24.8	867	450	-0.2	32,279	29.0	14.6
10/21/2010 09:28	10.3	33.7	24.8	867	450	-0.3	32,279	29.0	14.6
10/21/2010 09:29	10.4	33.7	24.8	867	450	-0.3	32,258	29.0	14.6
10/21/2010 09:30	10.4	33.8	24.8	867	450	-0.3	32,258	29.0	14.6
10/21/2010 09:31	10.4	33.8	24.8	867	450	-0.3	32,258	29.0	14.6
10/21/2010 09:32	10.4	33.8	24.8	867	450	-0.3	32,258	29.0	14.6
10/21/2010 09:33	10.4	33.8	24.8	867	451	-0.3	32,258	29.0	14.6
10/21/2010 09:34	10.4	33.8	24.8	867	451	-0.3	32,237	29.0	14.6
10/21/2010 09:35	10.4	33.8	24.8	867	451	-0.2	32,237	29.0	14.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07 Process and CEM Operating Parameters

000 017 170 000		Oxygen	Concentration	% vol.		14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	4
707 400 / E8 487	CO Concentration	corrected to	7% O ₂	mdd		29.0	, 29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0
T GEEG	Flue Gas	Flow	Rate	wet scfm		32,237	32,258	32,258	32,279	32,279	32,279	32,279	32,258	32,237	32,237	32,237	32,237	32,216	32,216	32,216	32,216	32,237	32,237	32,237	32,216	32,195	32,195	32,174	32,174	32,174	32,174	32,153	32,153	32,153	32,153	32,153	32.132
TO 1040	- 등	Hood	Pressure	in. H ₂ 0		-0.3	-0.3	-0.2	-0.2	-0.3	-0.3	-0.2	-0.3	-0.2	-0.2	-0.2	-0.2	6.0	-0.3	-0.3	-0.3	6.0	-0.3	-0.3	-0.3	-0.2	-0.3	-0.3	-0.2	-0.3	-0.3	-0.2	-0.3	-0.2	-0.3	-0.3	0.3
TT-9403	Heat	Exchanger	Exit	ኩ		451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	451	450	450	450	450
TT_240E		Back-End	Temp.	ڀ		867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867	867
AR-2401	Shale	Feed	Rate	tbh		24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8
PT-2302	LLGF	Atomization	Pressure	isd		33.8	33.8	33.8	33.8	33.8	33.8	33.9	33.9	33.9	33.9	33.9	, 33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9
MM-2401	LGF	Feed	Rate	mdg	, ,	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.5	10.5	10.5	10.5	10.5
Tag No		Parameter		Units	Date / Ime	10/21/2010 09:36	10/21/2010 09:37	10/21/2010 09:38	10/21/2010 09:39	10/21/2010 09:40	10/21/2010 09:41	10/21/2010 09:42	10/21/2010 09:43	10/21/2010 09:44	10/21/2010 09:45	10/21/2010 09:46	10/21/2010 09:47	10/21/2010 09:48	10/21/2010 09:49	10/21/2010 09:50	10/21/2010 09:51	10/21/2010 09:52	10/21/2010 09:53	10/21/2010 09:54	10/21/2010 09:55	10/21/2010 09:56	10/21/2010 09:57	10/21/2010 09:58	10/21/2010 09:59	10/21/2010 10:00	10/21/2010 10:01	10/21/2010 10:02	10/21/2010 10:03	10/21/2010 10:04	10/21/2010 10:05	10/21/2010 10:06	10/21/2010 10:07

October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Tag No	NAM. 2001	COSC TO	AD 2404	TT 240E	COAC TT	LOLO TOO	0000 110	707 007 700	010 01 7 770 00 4
J.Oo.	IMINI-240	F1-2302	AR-240	6017-11	11-2403	DF1-Z104	F1-5555	XO/-400 / F6-18/	AOZ-611 / F6-2/9
	LGF	LGF	Shale	Ķ	Heat	ğ	Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rafe	Temp.	Exi	Pressure	Rate	7% O ₂	Concentration
Units	db	psi	tph	ĥ	ţ.	in. H ₂ O	wet scfm	mdd	% vol.
Date / Time		,							
10/21/2010 10:08	10.5	33.9	24.8	298	450	-0.2	32,132	28.0	14.5
10/21/2010 10:09	10.5	33.9	24.8	867	450	-0.2	32,132	28.0	14.5
10/21/2010 10:10	10.5	33.9	24.8	298	450	-0.3	32,132	28.0	14.5
10/21/2010 10:11	10.5	33.9	24.8	867	450	-0.3	32,132	28.0	14.5
10/21/2010 10:12	10.5	33.9	24.8	867	450	-0.3	32,111	28.0	14.5
10/21/2010 10:13	10.5	33.9	24.8	867	450	-0.3	32,111	28.0	14.5
10/21/2010 10:14	10.5	33.9	24.8	867	450	-0.3	32,111	28.0	14.5
10/21/2010 10:15	10.5	33.8	24.8	867	449	-0.3	32,090	28.0	14.5
10/21/2010 10:16	10.5	33.8	24.8	867	449	-0.2	32,090	28.0	14.5
10/21/2010 10:17	10.5	33.8	24.8	867	449	-0.2	32,069	28.0	14.5
10/21/2010 10:18	10.5	33.8	24.8	867	449	-0.2	32,048	28.0	14.5
10/21/2010 10:19	10.5	33.8	24.8	867	449	-0.3	32,048	28.0	14.5
10/21/2010 10:20	10.5	33.8	24.8	867	449	-0.3	32,027	28.0	14.5
10/21/2010 10:21	10.5	33.8	24.8	867	449	-0.2	32,027	28.0	14.4
10/21/2010 10:22	10.5	33.8	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:23	10.5	33.9	24.8	867	449	-0.2	32,006	28.0	14.4
10/21/2010 10:24	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:25	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:26	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:27	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:28	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:29	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:30	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:31	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:32	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:33	10.5	33.9	24.8	866	449	-0.3	32,027	28.0	14.4
10/21/2010 10:34	10.5	33.9	24.8	998	449	-0.2	32,027	28.0	14.4
10/21/2010 10:35	10.5	33.9	24.8	866	450	-0.3	32,027	28.0	14.4
10/21/2010 10:36	10.5	33.9	24.8	867	450	-0.3	32,027	28.0	14.4
10/21/2010 10:37	10.5	33.9	24.8	867	450	-0.3	32,027	28.0	14.4
10/21/2010 10:38	10.5	33.9	24.8	867	450	-0.3	32,006	28.0	14,4
10/21/2010 10:39	10.5	33.9	24.8	1 867	450	-0.3	32,006	28.0	14.4

October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

ad No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
	LLGF	LLGF	Shale	Kil	Heat	Kiin	Flue Gas	CO Concentration	
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdg	psi	tph	Ļ	ŗ	in. H ₂ O	wet scfm	mdd	% vol.
Date / IIMe									
10/21/2010 10:40	10.5	33.9	24.8	866	450	-0.3	32,006	28.0	14.4
10/21/2010 10:41	10.5	33.9	24.8	998	450	-0.3	32,006	28.0	14.4
10/21/2010 10:42	10.5	33.9	24.8	866	450	-0.3	31,985	28.0	14.4
10/21/2010 10:43	10.5	33.8	24.8	998	450	-0.2	32,006	28.0	14.4
10/21/2010 10:44	10.5	33.8	24.8	866	450	-0.3	32,006	28.0	14.4
10/21/2010 10:45	10.5	33.8	24.8	998	450	-0.2	32,006	28.0	14.4
10/21/2010 10:46	10.5	33.8	24.8	866	450	-0.2	32,006	28.0	14.4
10/21/2010 10:47	10.5	33.8	24.8	866	450	-0.2	32,006	28.0	14.4
10/21/2010 10:48	10.5	33.8	24.8	866	450	-0.2	32,027	28.0	14.4
10/21/2010 10:49	10.5	33.8	24.8	998	450	-0.3	32,027	28.0	14.4
10/21/2010 10:50	10.5	33.8	24.8	998	450	-0.3	32,006	28.0	14.4
10/21/2010 10:51	10.5	33.8	24.8	866	450	-0.2	31,985	28.0	14.4
10/21/2010 10:52	10.5	33.8	24.8	998	450	-0.2	31,964	28.0	14.4
10/21/2010 10:53	10.5	33.8	24.8	866	450	-0.2	31,964	28.0	14.4
10/21/2010 10:54	10.5	33.8	24.8	866	450	-0.3	31,943	28.0	14.4
10/21/2010 10:55	10.5	33.8	24.8	998	450	-0.2	31,943	28.0	14.4
10/21/2010 10:56	10.5	33.8	24.8	998	450	-0.3	31,943	28.0	14.4
10/21/2010 10:57	10.5	33.9	24.8	998	450	-0.3	31,943	28.0	14.4
10/21/2010 10:58	10.5	33.8	24.8	866	450	-0.3	31,922	28.0	14.4
10/21/2010 10:59	10.5	33.8	24.8	998	450	-0.3	31,901	28.0	14.4
10/21/2010 11:00	10.5	33.8	24.8	866	450	-0.2	31,901	28.0	14.4
10/21/2010 11:01	10.5	33.8	24.8	866	450	-0.3	31,880	28.0	14.4
10/21/2010 11:02	10.5	33.8	24.8	866	450	-0.3	31,901	28.0	14.4
10/21/2010 11:03	10.5	33.8	24.8	998	450	-0.3	31,880	28.0	14.4
10/21/2010 11:04	10.5	33.8	24.8	866	450	-0.3	31,880	28.0	14.4
10/21/2010 11:05	10.5	33.8	24.8	998	450	-0.3	31,901	29.0	14.4
10/21/2010 11:06	10.5	33.8	24.8	998	450	-0.3	31,901	29.0	14.4
10/21/2010 11:07	10.5	33.8	24.8	998	450	-0.3	31,901	29.0	14.4
10/21/2010 11:08	10.5	33.8	24.8	866	451	-0.2	31,901	29.0	14.4
10/21/2010 11:09	10.5	33.8	24.8	998	451	-0.3	31,901	29.0	14.4
10/21/2010 11:10	10.5	33.8	24.8	866	451	-0.2	31,880	29.0	14.5
10/21/2010 11:11	10.5	33.8	24.8	998	451	-0.3	31,880	29.0	14.5

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October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

ON DET	MM-2401	PT-2302	AR-2401	TT-9105	TT-2403	TD 13404	CT EEEE	VO7 400 / E6 467	050 077 1 140 000
>	LGF	LIGE	Shale		Heat	Kill Kill	Flite Gas	CO Concentration	677-01710-700
Parameter	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxvaen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units	mdg	. isd	tph	μ̈́	۴	in. H ₂ O	wet scfm	шdd	% vol.
Date / IITIE									
10/21/2010 11:12	10.5	33.8	24.8	998	451	-0.2	31,880	29.0	14.5
10/21/2010 11:13	10.5	33.8	24.8	866	451	-0.3	31,859	29.0	14.5
10/21/2010 11:14	10.5	33.8	24.8	998	451	-0.2	31,838	29.0	14.5
10/21/2010 11:15	10.5	33.8	24.8	998	451	-0.3	31,838	29.0	14.5
10/21/2010 11:16	10.5	33.9	24.8	998	451	-0.3	31,838	29.0	14.5
10/21/2010 11:17	10.5	33.9	24.8	866	451	-0.2	31,838	29.0	14.5
10/21/2010 11:18	10.5	33.9	24.8	998	451	-0.2	31,838	29.0	14.5
10/21/2010 11:19	10.5	33.9	24.8	998	451	-0.3	31,838	29.0	14.5
10/21/2010 11:20	10.5	33.9	24.8	998	451	-0.3	31,838	29.0	14.5
10/21/2010 11:21	10.5	33.9	24.8	998	451	-0.3	31,838	29.0	14.5
10/21/2010 11:22	10.5	33.9	24.8	998	451	-0.2	31,838	29.0	14.5
10/21/2010 11:23	10.5	33.9	24.8	866	451	-0.2	31,838	29.0	14.5
10/21/2010 11:24	10.5	33.9	24.8	998	451	-0.2	31,838	29.0	14.5
10/21/2010 11:25	10.5	33.9	24.8	866	451	-0.2	31,838	29.0	14.5
10/21/2010 11:26	10.5	33.9	24.8	998	451	-0.3	31,838	29.0	14.5
10/21/2010 11:27	10.5	33.9	24.8	998	451	-0.3	31,817	29.0	14.5
10/21/2010 11:28	10.5	33.9	24.8	998	451	-0.3	31,817	29.0	14.5
10/21/2010 11:29	10.5	33.9	24.8	998	451	-0.3	31,817	29.0	14.5
10/21/2010 11:30	10.6	33.9	24.8	998	451	-0.3	31,796	29.0	14.5
10/21/2010 11:31	10.6	34.0	24.8	998	450	-0.3	31,796	29.0	14.5
10/21/2010 11:32	10.6	34.0	24.8	866	450	-0.3	31,775	29.0	14.5
10/21/2010 11:33	10.6	34.0	24.8	998	450	-0.3	31,754	29.0	14.5
10/21/2010 11:34	10.6	34.0	24.8	866	450	-0.3	31,754	29.0	14.5
10/21/2010 11:35	10.6	34.0	24.8	998	450	-0.3	31,733	29.0	14.5
10/21/2010 11:36	10.6	34.0	24.8	998	450	-0.3	31,733	29.0	14.5
10/21/2010 11:37	10.6	34.0	24.8	998	449	-0.3	31,733	29.0	14.5
10/21/2010 11:38	10.6	34.0	24.8	865	449	-0.3	31,733	29.0	14.5
10/21/2010 11:39	10.6	34.0	24.8	865	449	-0,3	31,712	29.0	14.5
10/21/2010 11:40	10.6	34.0	24.8	865	449	-0.4	31,733	29.0	14.5
10/21/2010 11:41	10.6	34.1	24.8	865	449	-0.4	31,586	29.0	14.5
10/21/2010 11:42	10.6	34.1	24.8	865	448	-0.3	31,481	29.0	14.5
10/21/2010 11:43	10.6	34.1	24.8	865	448	-0.4	31,481	29.0	14.5

October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07 Process and CEM Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Parameter		1)				
Parameter	LLGF	LLGF	Shale	Kiin	Heat	XiIn	Flue Gas	CO Concentration	
	Feed	Atomization	Feed	Back-End	Exchanger	Hood	Flow	corrected to	Oxygen
	Rate	Pressure	Rate	Temp.	Exit	Pressure	Rate	7% O ₂	Concentration
Units Date / Time	mdg	psi	tph	۳	۴	in. H ₂ O	wet scfm	mdd	% vol.
10/21/2010 11:44	10.6	34.1	24.8	865	448	-0.2	31,481	29.0	14.6
10/21/2010 11:45	10.6	34.1	24.8	865	448	-0.2	31,502	29.0	14.6
10/21/2010 11:46	10.6	34.1	24.8	998	448	-0.2	31,523	29.0	14.6
10/21/2010 11:47	10.6	34.1	24.8	866	448	-0.2	31,481	29.0	14.6
10/21/2010 11:48	10.6	34.1	24.8	866	448	-0.2	31,481	29.0	14.6
10/21/2010 11:49	10.6	34.1	24.8	866	449	-0.3	31,502	29.0	14.6
10/21/2010 11:50	10.6	34.1	24.8	866	449	-0.3	31,544	29.0	14.6
10/21/2010 11:51	10.6	34.2	24.8	866	449	-0.3	31,649	29.0	14.6
10/21/2010 11:52	10.6	34,2	24.8	866	449	-0.3	31,796	29.0	14.6
10/21/2010 11:53	10.6	34.2	24.8	865	449	-0.3	31,922	29.0	14.6
10/21/2010 11:54	10.6	34.2	24.8	865	449	-0.3	32,111	30.0	14.6
10/21/2010 11:55	10.6	34.2	24.8	865	449	-0.3	32,384	30.0	14.6
10/21/2010 11:56	10.6	34.2	24.8	865	450	-0.3	32,657	30.0	14.6
10/21/2010 11:57	10.5	34.2	24.8	865	450	-0.3	32,993	30.0	14.6
10/21/2010 11:58	10.5	34.2	24.8	865	450	-0.3	33,455	30.0	14.6
10/21/2010 11:59	10.5	34.2	24.8	865	450	-0.3	33,938	30.0	14.6
10/21/2010 12:00	10.5	34.2	24.8	865	450	-0.3	34,358	30.0	14.7
10/21/2010 12:01	10.5	34.2	24.8	865	450	-0.3	34,736	30.0	14.7
10/21/2010 12:02	10.5	34.2	24.8	865	450	-0.3	35,051	30.0	14.7
10/21/2010 12:03	10.6	34.3	24.8	998	450	-0.3	35,345	30.0	14.7
10/21/2010 12:04	10.6	34.3	24.8	998	450	-0.3	35,576	30.0	14.7
10/21/2010 12:05	10.5	34.3	24.8	866	450	-0.4	35,807	30.0	14.7
10/21/2010 12:06	10.5	34.3	24.8	866	450	-0.3	36,038	30.0	14.7
10/21/2010 12:07	10.5	34.3	24.8	998	450	-0.4	36,269	30.0	14.7
AVERAGE	10.5	34.0	24.8	998	450	-0.3	32,193	28.6	14.5
MINIMUM	10.3	33.7	24.8	865	448	-0.4	31,481	28.0	14.4
MAXIMUM	10.6	35.1	24.8	867	451	-0.2	36,269	30.0	14.7

Norlite Corporation - Cohoes, NY - MACT CPT 2010

October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00

)	Air Pollu	r Pollution Control	ol Syste	m (APCS) Opera	System (APCS) Operating Parameters		
Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-44
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Duco
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressu
	Temperature	Drop	Flow Rate	Rate	동	Level	Feed Rate	Fluid Flow Rate	Drop
Units	ŗ.	in. H ₂ 0	mdb	mdb	pH units	% Ht.	lb/hr	scfm	in. H ₂
Date / Time									
10/19/2010 10:58	403	6.1	181.0	17.3	7.8	68.9	250.0	152.6	3.5
10/19/2010 10:59	403	6.1	181.0	17.5	7.8	69.2	250.0	152.6	3.5
10/19/2010 11:00	403	6.1	181.0	17.7	7.8	69.5	250.0	152.5	3.5
10/19/2010 11:01	403	6.1	181.0	17.9	7.8	69.8	250.0	152.5	3.5
10/19/2010 11:02	403	6.1	181.0	18.0	7.8	70.0	250.0	152.5	3.5
10/19/2010 11:03	403	6.1	181.0	18.2	7.8	70.1	250.0	152.5	3.5
10/19/2010 11:04	403	6.2	181.0	18.4	7.8	70.3	250.0	152.5	3.5
10/19/2010 11:05	402	6.2	181.0	18.6	7.8	70.5	250.0	152.4	3.5
10/19/2010 11:06	402	6.2	181.0	18.8	7.8	70.7	250.0	152.4	3.5
10/19/2010 11:07	402	6.2	181.0	19.0	7.8	70.8	250.0	152.4	3.5
10/19/2010 11:08	402	6.2	181.0	19.2	7.8	71.0	250.0	152.3	3.5
10/19/2010 11:09	402	6.2	181.0	19.4	7.8	71.2	250.0	152.3	3.5
10/19/2010 11:10	402	6,2	181.0	19.6	7.8	71.3	250.0	152.3	3.5
10/19/2010 11:11	402	6.2	181.0	19.8	7.8	71.4	250.0	152.2	3.5
10/19/2010 11:12	401	6.2	181.0	19.9	7.8	71.4	250.0	152,2	3.5
10/19/2010 11:13	401	6.2	181.0	20.1	7.8	71.5	250.0	152.2	3.5
10/19/2010 11:14	401.	6.2	181.0	20.3	7.8	71.5	250.0	152.2	3.5
10/19/2010 11:15	401	6.2	181.0	20.5	7.8	71.5	250.0	152.2	3.5
10/19/2010 11:16	401	6.2	181.0	20.7	7.8	71.4	250.0	152.2	3.5
10/19/2010 11:17	401	6.2	181.0	20.9	7.8	71.3	250.0	152.1	3.5
10/19/2010 11:18	401	6.2	181.0	21.1	7.8	71.2	250.0	152.1	3.5
10/19/2010 11:19	401	6.2	181.0	21.3	7.8	71.1	250.0	152.0	3.5
10/19/2010 11:20	401	6.2	181.0	21.5	7.8	71.0	250.0	152.0	3.5
10/19/2010 11:21	401	6.2	181.0	21.7	7.8	70.8	250.0	151.9	3.5
10/19/2010 11:22	401	6.2	181.0	21.9	7.8	70.5	250.0	151.9	3.5
10/19/2010 11:23	401	6.2	181.0	22.0	7.8	70.2	250.0	151.9	3.5
10/19/2010 11:24	401	6.2	181.0	22.1	7.9	6.69	250.0	151.9	3.5
10/19/2010 11:25	401	6.2	181.0	22.2	7.9	9.69	250.0	151.8	3.6
10/19/2010 11:26	401	6.2	181.0	22.1	7.9	69.4	250.0	151.8	3.6
10/19/2010 11:27	401	6.2	181.0	22.0	8.0	0.69	250.0	151.7	3.6
10/19/2010 11:28	401	6.2	181.0	21.9	8.0	68.7	250.0	151.7	3.6
10/19/2010 11:29	401	6.2	181.0	21,8	8.0	68.3	250.0	151.7	3.6
10/19/2010 11:30	401	6.2	181.0	21.7	8.0	68.0	250.0	151.6	3.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010

October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00 Air Pollution Control System (APCS) Operating Parameters

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	Baghouse	Venturi	Scrubber	Scrubber	OCI UDDICE	Scrubber			Ducon
Parameter	inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	돐	Level	Feed Rate	Fluid Flow Rate	Drop
Units	۴	in. H ₂ 0	mdb	mdg	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time	2		2	2		1	0.000		
10/19/2010 11:31	401	6.2	181.0	21.6	8.1	67.7	250.0	151.6	
10/19/2010 11:32	401	6.2	181.0	21.5	8.1	67.4	250.0	151.6	3.6
10/19/2010 11:33	401	6.2	181.0	21.4	Έ	0.79	250.0	151.6	3.6
10/19/2010 11:34	401	6.2	181.0	21.3	6.1	9.99	250.0	151.6	3.6
10/19/2010 11:35	401	6.2	181.0	21.1	œ 1	66.3	250.0	151.6	3.6
10/19/2010 11:36	401	6.2	181.0	21.0	8.2	66.0	250.0	151.6	3.6
10/19/2010 11:37	401	6.2	181.0	20.9	8.2	65.7	250.0	151.6	3.6
10/19/2010 11:38	401	6.2	181.0	20.7	8.2	65.4	250.0	151.6	3.6
10/19/2010 11:39	401	6.2	181.0	20.6	8.2	65.0	250.0	151.6	3.6
10/19/2010 11:40	401	6.2	181.0	20.5	8.2	64.7	250.0	151.6	3.6
10/19/2010 11:41	401	6.2	181.0	20.4	8.2	64.4	250.0	151.6	3.6
10/19/2010 11:42	401	6.2	181.0	20.2	8.3	64.1	250.0	151.6	3.6
10/19/2010 11:43	401	6.2	181.0	20.1	8.3	63.8	250.0	151.6	3.6
10/19/2010 11:44	401	6.2	181.0	20.0	8.3	63.4	250.0	151.6	3.6
10/19/2010 11:45	401	6.2	181.0	19.8	8,3	63.1	250.0	151.6	3.6
10/19/2010 11:46	401	6.2	180.0	19.7	8.3	62.9	250.0	151.6	3.6
10/19/2010 11:47	401	6.2	180.0	19.5	8.3	62.6	250.0	151.6	3.6
10/19/2010 11:48	401	6.2	180.0	19.4	8.3	62.3	250.0	151.6	3.6
10/19/2010 11:49	401	6.2	180.0	19.2	8.3	62.0	250.0	151.6	3.6
10/19/2010 11:50	401	6.2	180.0	19.1	8.3	61.6	250.0	151.6	3.6
10/19/2010 11:51	401	6.2	180.0	18.9	8.3	61.4	250.0	151.6	3.6
10/19/2010 11:52	401	6.2	180.0	18.8	8.3	61.2	250.0	151.6	3.6
10/19/2010 11:53	401	6.2	180.0	18.6	8.3	6.09	250.0	151.6	3.6
10/19/2010 11:54	401	6.2	180.0	18.5	8.3	9.09	250.0	151.6	3.6
10/19/2010 11:55	401	6.2	180.0	18.3	8.3	60.3	250.0	151.6	3.6
10/19/2010 11:56	401	6.2	180.0	18.2	8.3	60.1	250.0	151.6	3.6
10/19/2010 11:57	400	6.2	179.0	18.0	8.3	59.9	250.0	151.6	3.6
10/19/2010 11:58	400	6.2	179.0	17.9	8.3	59.7	250.0	151.6	3.6
10/19/2010 11:59	400	6.2	179.0	17.7	8.3	59.4	250.0	151.6	3.6
10/19/2010 12:00	400	6.2	179.0	17.5	8.3	59.2	250.0	151.6	3.6
10/19/2010 12:01	400	6.2	179.0	17.4	8.4	58.9	250.0	151.6	3.6
10/19/2010 12:02	400	6.2	179.0	17.2	8.4	58.7	250.0	151.6	3.6
10/19/2010 12:03	400	6.2	179.0	17.1	8.4	58.6	250.0	151.6	3.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010

October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00 Air Pollution Control System (APCS) Operating Parameters

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Tag No	TT-2404	DPT-2303	ET.2507 A/R	Ľ	T-2508 2509 A/R	1T-102 AC-1	AC-104 / 102 / 103	VE-104 / 109 / 103	CONT. 1400
)))	Bachouse	Venturi	Scribbor	Soribber	Scribbor	Scrubber	201 1201 1101 001	201 (201)	70 00 0
	Dagliouse		Sciuppel	ed upber	edunios.	eganpe	2		חססחם
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	핂	Level	Feed Rate	Fluid Flow Rate	Drop
Units	ኍ	in. H ₂ O	mdb	mdb	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time								,	
10/19/2010 12:04	400	6.2	179.0	16.9	8.4	58.4	250.0	151.6	3.6
10/19/2010 12:05	400	6.2	179.0	16.8	8.3	58.2	250.0	151.6	3.6
10/19/2010 12:06	400	6.2	179.0	16.6	8.4	58.0	250.0	151.6	3.6
10/19/2010 12:07	400	6.2	179.0	16.4	8.4	57.8	250.0	151.6	3.6
10/19/2010 12:08	400	6.2	179.0	16.3	8.4	57.6	250.0	151.6	3.6
10/19/2010 12:09	401	6.2	178.0	16.1	8.4	57.4	250.0	151.6	3.6
10/19/2010 12:10	401	6.2	178.0	16.0	8.4	57.4	250.0	151.6	3.6
10/19/2010 12:11	401	6.2	178.0	15.8	8.4	57.3	250.0	151.6	3.6
10/19/2010 12:12	401	6.2	178.0	15.6	8.4	57.2	250.0	151.6	3.6
10/19/2010 12:13	401	6.2	178.0	15.5	8.4	57.0	250.0	151.6	3.5
10/19/2010 12:14	401	6.2	178.0	15.3	8.4	56.9	250.0	151.6	3.5
10/19/2010 12:15	401	6.2	178.0	15.1	8.4	56.7	250.0	151.6	3.5
10/19/2010 12:16	401	6.2	178.0	15.0	8.4	56.7	250.0	151.6	3.5
10/19/2010 12:17	401	6.2	178.0	14.8	8.4	56.6	250.0	151.6	3.5
10/19/2010 12:18	401	6.2	178.0	14.7	8.4	56.6	250.0	151.6	3.5
10/19/2010 12:19	401	6.2	178.0	14.5	8.4	56.5	250.0	151.6	3.5
10/19/2010 12:20	401	6.2	177.0	14.3	8.4	56.4	250.0	151.6	3.5
10/19/2010 12:21	401	6.2	177.0	14.2	8.4	56.3	250.0	151.6	3.5
10/19/2010 12:22	401	6.2	177.0	14.0	8.4	56.2	250.0	151.6	3.5
10/19/2010 12:23	401	6.2	177.0	13.8	8.3	56.2	250.0	151.6	3.5
10/19/2010 12:24	401	6.2	177.0	13.7	8.3	56.3	250.0	151.6	3.5
10/19/2010 12:25	401	6.2	177.0	13.7	8.3	56.3	250.0	151.6	3.5
10/19/2010 12:26	401	6.2	177.0	13.7	8.3	56.2	250.0	151.6	3,5
10/19/2010 12:27	401	6.2	177.0	13.7	8.2	56.2	250.0	151.6	3.5
10/19/2010 12:28	401	6.2	177.0	13.7	8.2	56.2	250.0	151.6	3.5
10/19/2010 12:29	401	6.2	177.0	13.7	8.2	56.2	250.0	151.6	3.5
10/19/2010 12:30	401	6.1	176.0	13.7	8.2	56.2	250.0	151.6	3.5
10/19/2010 12:31	401	6.1	176.0	13.7	8.2	56.2	250.0	151.6	3.5
10/19/2010 12:32	401	6.1	176.0	13.7	8.1	56.2	250.0	151.6	3.5
10/19/2010 12:33	401	6.1	176.0	13.7	8.1	56.3	250.0	151.6	3.5
10/19/2010 12:34	401	6.1	176.0	13.7	8.1	56.3	250.0	151.6	3.5
10/19/2010 12:35	401	6.1	176.0	13.7	∞ 	56.2	250.0	151.6	3.5
10/19/2010 12:36	401	6.1	. 176.0	13.7	8.1	56.2	250.0	151.6	3.5

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Norlite Corporation - Cohoes, NY - MACT CPT 2010

October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00

Air Pollution Control System (APCS) Operating Parameters

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Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
-	Temperature	Drop	Flow Rate	Rate	돐	Level	Feed Rate	Fluid Flow Rate	Drop
Units Date / Time	Ļ	in. H ₂ 0	шdб	mdg	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
10/19/2010 12:37	401	6.1	176.0	13.7	8.1	56.2	250.0	151.6	3.5
10/19/2010 12:38	401	6.1	176.0	13.7	8.0	56.3	250.0	151.6	3.5
10/19/2010 12:39	401	6.1	176.0	13.7	8.0	56.4	250.0	151.6	3.5
10/19/2010 12:40	401	6.1	175.0	13.7	8.0	56.4	250.0	151.6	3.5
10/19/2010 12:41	401	6.1	175.0	13.7	8.0	56.3	250.0	151.6	3,5
10/19/2010 12:42	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:43	401	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5
10/19/2010 12:44	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:45	401	6.1	175.0	13.7	8.0	56.3	250.0	151.6	3.5
10/19/2010 12:46	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:47	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:48	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:49	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:50	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:51	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:52	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:53	401	6.1	175.0	13.7	8.0	56.3	250.0	151.6	3.5
10/19/2010 12:54	401	6.1	175.0	13.7	8.0	56.3	250.0	151.6	3.5
10/19/2010 12:55	401	6.1	175.0	13.7	8.0	56.4	250.0	151.6	3.5
10/19/2010 12:56	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:57	401	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5
10/19/2010 12:58	401	6.1	175.0	13.7	8.0	56.0	250.0	151.6	3.5
10/19/2010 12:59	401	6.1	175.0	13.7	8.0	55.9	250.0	151.6	3.5
10/19/2010 13:00	401	6.1	175.0	13.7	8.0	55.9	250.0	151.6	3.5
10/19/2010 13:01	401	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5
10/19/2010 13:02	401	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5
10/19/2010 13:03	401	6.1	175.0	13.7	8.0	56.0	250.0	151.6	3.5
10/19/2010 13:04	401	6.1	175.0	13.7	8.0	55.9	250.0	151,6	3.5
10/19/2010 13:05	401	6.1	175.0	13.7	8.0	55.9	250.0	151.6	3,5
10/19/2010 13:06	400	6.1	175.0	13.7	8.0	56.0	250.0	151.6	3.5
10/19/2010 13:07	400	6.1	175.0	13.7	8.0	56.0	250.0	151.6	3.5
10/19/2010 13:08	400	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5
10/19/2010 13:09	400	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010

October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00 Air Pollution Control System (APCS) Operating Parameters

Tag No	TT_2404	DPT-2303	T 2507 V/B ET 2508 2508	ET 2508	2500 A/B	1 402	AC 404 / 400 / 409	104 / 400 / 400	700 TOO
5	FOF 7	21.7	1007-11	0002-1-1	2203	701-105	501 / 301 / 101-05	601 / 701 / 101-10	70++-1-0
-	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	Ę	Level	Feed Rate	Fluid Flow Rate	Drop
Units	Ļ	in. H ₂ O	mdg	mdb	pH units	% Ht.	. lb/hr	scfm	in. H ₂ O
Date / Time		_							
10/19/2010 13:10	400	6.1	175.0	13.7	8.0	56.0	250.0	151.6	3.5
10/19/2010 13:11	400	6.1	175.0	13.7	8.0	55.9	250.0	151.6	3.5
10/19/2010 13:12	400	6.1	175.0	13.7	8.0	55.8	250.0	151.6	3.5
10/19/2010 13:13	400	6.1	175.0	13.7	8.0	55.8	250.0	151.6	3.5
10/19/2010 13:14	400	6.1	175.0	13.7	8.0	55.9	250.0	151.6	3.5
10/19/2010 13:15	400	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5
10/19/2010 13:16	399	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5
10/19/2010 13:17	399	6.1	175.0	13.7	8.0	56.0	250.0	151.6	3.5
10/19/2010 13:18	399	6.1	174.0	13.7	8.0	55.9	250.0	151.6	3.5
10/19/2010 13:19	399	6.1	174.0	13.6	8.0	55.8	250.0	151.6	3.5
10/19/2010 13:20	399	6.1	174.0	13.6	8.0	56.0	250.0	151.6	3,5
10/19/2010 13:21	399	6.1	174.0	13.6	8.0	56.1	250.0	151.6	3.5
10/19/2010 13:22	399	6.1	174.0	13.6	8.0	56.3	250.0	151.6	3.5
10/19/2010 13:23	399	6.1	174.0	13.6	8.0	56.3	250.0	151.6	3.5
10/19/2010 13:24	399	6.1	174.0	13.6	8.0	56.2	250.0	151.6	3.5
10/19/2010 13:25	399	6.1	174.0	13.6	8.0	56.1	250.0	151.6	3.5
10/19/2010 13:26	399	6.1	174.0	13.6	8.0	56.1	250.0	151.7	3.5
10/19/2010 13:27	399	6.1	174.0	13.6	8.0	56.2	250.0	151.7	3.5
10/19/2010 13:28	399	6.1	174.0	13.6	7.9	56.3	250.0	151.7	3.5
10/19/2010 13:29	399	6.1	174.0	13.6	6.7	56.4	250.0	151.7	3.5
10/19/2010 13:30	399	6.1	174.0	13.6	7.9	56.5	250.0	151.7	3.5
10/19/2010 13:31	399	6.1	174.0	13.6	7.9	56.4	250.0	151.7	3.5
10/19/2010 13:32	399	6.1	174.0	13.6	7.9	56.4	250.0	151.7	3.5
10/19/2010 13:33	399	6.1	174.0	13.6	6.7	56.3	250.0	151.7	3.5
10/19/2010 13:34	399	6.1	174.0	13.6	6.7	56.3	250.0	151.7	3.5
10/19/2010 13:35	399	6.1	174.0	13.6	7.9	56.5	250.0	151.7	3.5
10/19/2010 13:36	399	6.1	174.0	13.5	7.9	56.6	250.0	151.7	3.5
10/19/2010 13:37	399	6.1	174.0	13.5	7.9	56.6	250.0	151.7	3.5
10/19/2010 13:38	399	6.1	174.0	13.5	6.7	56.5	250.0	151.7	3.5
10/19/2010 13:39	398	6.1	174.0	13.5	6.7	56.5	250.0	151.7	3.5
10/19/2010 13:40	398	6.1	174.0	13.5	7.9	56.4	250.0	151.7	3.5
10/19/2010 13:41	398	6.1	174.0	13.5	7.9	56.4	250.0	151.7	3.5
10/19/2010 13:42	398	6.1	174.0	13.5	7.9	56.6	250.0	151.7	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00

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Pollution Control System	
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Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber		•	Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	돐	Level	Feed Rate	Fluid Flow Rate	Drop
Units	ኩ	in. H ₂ O	mdg	mdb	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time									
10/19/2010 13:43	398	6.1	174.0	13.5	7.9	56.8	250.0	151.7	3.5
10/19/2010 13:44	398	6.1	174.0	13.5	7.9	56.8	250.0	151.7	3.5
10/19/2010 13:45	398	6.1	174.0	13.5	7.9	56.9	250.0	151.7	3.5
10/19/2010 13:46	398	6.1	174.0	13.5	7.9	56.9	250.0	151.7	3.5
10/19/2010 13:47	398	6.1	174.0	13.5	7.9	56.9	250.0	151.8	3.5
10/19/2010 13:48	399	6.1	174.0	13.4	7.9	56.8	250.0	151.8	3.5
10/19/2010 13:49	399	6.1	174.0	13.4	7.9	56.9	250.0	151.8	3.5
10/19/2010 13:50	399	6.0	174.0	13.4	7.9	67.0	250.0	151.8	3.5
10/19/2010 13:51	399	6.0	174.0	13.4	7.9	56.9	250.0	151.8	3.5
10/19/2010 13:52	399	6.0	174.0	13.4	7.9	56.9	250.0	151.8	3.5
10/19/2010 13:53	399	6.0	174.0	13.4	7.9	56.9	250.0	151.8	3.5
10/19/2010 13:54	399	6.0	174.0	13.4	7.9	57.0	250.0	151.8	3.5
10/19/2010 13:55	399	6.0	174.0	13.4	7.9	57.0	250.0	151.8	3.5
10/19/2010 13:56	399	6.0	174.0	13.4	7.9	57.1	250.0	151.8	3.5
10/19/2010 13:57	399	6.0	174.0	13.4	8.0	57.1	250.0	151.8	3.5
10/19/2010 13:58	399	6.0	174.0	13.3	8.0	57.2	250.0	151.8	3.5
10/19/2010 13:59	399	6.0	174.0	13.3	8.0	57.3	250.0	151.8	3.5
10/19/2010 14:00	399	6.0	174.0	13.3	7.9	57.3	250.0	151.8	3.5
AVERAGE	400	6.1	177.2	16.0	8.1	60.1	250.0	151.7	3.5
MINIMUM	398	6.0	174.0	13.3	7.8	55.8	250.0	151.6	3.5
MAXIMUM	403	6.2	181.0	22.2	8.4	71.5	250.0	152.6	3.6

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Norlite Corporation - Cohoes, NY - MACT CPT 2010

October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42 Air Pollution Control System (APCS) Operating Parameters

F & B		DPT-2303 Venturi	FT-2507 A/B Scrubber	FT-2508 Scrubber	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
		nturi	Scrubber	Scrubber	Conibbon				
				1	SCION SCI	Scrubber			Ducon
		Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	_	Drop	Flow Rate	Rate	핊	Level	Feed Rate	Fluid Flow Rate	Drop
		in. H ₂ O	mdb	mdb	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
		6.0	175.0	12.9	8.1	56.6	250.0	151.9	3.5
		6.0	175.0	12.9	8.1	56.7	250.0	151.9	3.5
		6.0	175.0	12.9	8.1	56.7	250.0	151.9	3.5
		6.0	175.0	12.9	8.1	56.6	250.0	151.9	3.5
		6.0	175.0	12.9	8.1	56.4	250.0	151.9	3.5
		0.9	175.0	12.9	8.1	56.3	250.0	151.9	3.5
		6.0	175.0	12.9	8.1	56.3	250.0	151.9	3.5
		6.0	175.0	12.9	8.0	56.4	250.0	151.9	3.5
		6.0	175.0	12.9	8.0	56.5	250.0	151.9	3.5
		6.0	175.0	12.9	8.0	56.6	250.0	151.9	3.5
		6.0	175.0	12.8	8.0	56.7	250.0	151.9	3.5
		6.0	175.0	12.8	8.1	56.7	250.0	151.9	3.5
10/19/2010 14:52 401		6.0	175.0	12.9	8.1	56.7	250.0	151.9	3.5
10/19/2010 14:53 401		0.	175.0	13.0	8.1	56.7	250.0	151.9	3.5
10/19/2010 14:54 401		0.9	175.0	13.1	8.1	56.6	250.0	151.9	3.5
10/19/2010 14:55 401		6.0	175.0	13.2	8.1	56.5	250.0	151.9	3.5
10/19/2010 14:56 401		6.0	175.0	13.2	8.1	56.6	250.0	151.9	3.5
10/19/2010 14:57 401		6.0	175.0	13.3	8.1	56.7	250.0	151,9	3.5
10/19/2010 14:58 401		0.	175.0	13.4	2.	56.7	250.0	151.9	3.5
10/19/2010 14:59 401		6.0	175.0	13.5	8.1	56.5	250.0	151.9	3.5
10/19/2010 15:00 401		6,0	175.0	13.5	 	56.6	250.0	151.9	3,5
10/19/2010 15:01 401		6.0	175.0	13.6	8.1	56.6	250.0	151.9	3.5
10/19/2010 15:02 401		6.0	175.0	13.7	8.0	56.7	250.0	151.9	3.5
10/19/2010 15:03 401		0.	175.0	13.8	œ. 1	56.8	250.0	151.9	3.5
10/19/2010 15:04 401	9	6.0	175.0	13.9	8.1	56.9	250.0	151.9	3.5
10/19/2010 15:05 401	ဖ	6.0	175.0	13.9	6.1	57.0	250.0	151.9	3.5
10/19/2010 15:06 401		6.0	175.0	14.0	8.1	57.1	250.0	151.9	3.5
10/19/2010 15:07 401		6.0	175.0	14.1	8.1	57.1	250.0	151.9	3.5
10/19/2010 15:08 401		6.0	175.0	14.1	8.1	57.0	250.0	151.9	3.5
		6.0	175.0	14.2	8.1	56.9	250.0	151.9	3.5
10/19/2010 15:10 400		0.0	175.0	14.3	8.1	57.0	250.0	151.9	3.5
		0.9	175.0	14.3	8.1	57.1	250.0	151.9	3.5
10/19/2010 15:12 400		0.0	175.0	14.4	8.1	57.2	250.0	151.9	3.5

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Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42

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	Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
		Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
	Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
_		Temperature	Drop	Flow Rate	Rate	딢	Level	Feed Rate	Fluid Flow Rate	Drop
	Units Date / Time	ţ.	in. H ₂ O	mdg	mdb	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
	10/19/2010 15:13	400	6.0	175.0	14.5	8.1	57.1	250.0	151.9	3.5
	10/19/2010 15:14	400	6.0	175.0	14.6	8.1	57.2	250.0	151.9	3.5
	10/19/2010 15:15	400	6.0	175.0	14.6	<u>∞</u>	57.4	250.0	151.9	3.5
	10/19/2010 15:16	400	6.0	175.0	14.7	8,1	57.3	250.0	151.9	3.5
	10/19/2010 15:17	400	6.0	175.0	14.8	8.1	57.2	250.0	151.9	3.5
	10/19/2010 15:18	400	6.0	175.0	14.8	8.1	57.1	250.0	151.9	3.5
	10/19/2010 15:19	400	6.0	175.0	14.9	8.1	57.0	250.0	151.9	3.5
	10/19/2010 15:20	400	6.0	175.0	15.0	8.0	57.0	250.0	151.9	3.5
<u> </u>	10/19/2010 15:21	400	6.0	175.0	15.0	8.0	57.0	250.0	151.9	3.5
	10/19/2010 15:22	400	6.0	175.0	15.1	8.1	56.8	250.0	151.9	3.5
	10/19/2010 15:23	400	6.0	175.0	15.2	8.1	56.7	250.0	151.9	3.5
	10/19/2010 15:24	400	6.0	175.0	15.3	8.1	56.5	250.0	151.9	3.5
	10/19/2010 15:25	400	6.0	175.0	15.3	8.1	56.4	250.0	151.9	3.5
	10/19/2010 15:26	400	6.0	175.0	15,4	8.1	56.4	250.0	151.9	
	10/19/2010 15:27	400	6.0	175.0	15.5	8.1	56.4	250.0	151.9	3.5
	10/19/2010 15:28	400	6.0	175.0	15.5	8.1	56.3	250.0	151.9	3.5
_	10/19/2010 15:29	399	6.0	175.0	15.6	8.1	56.3	250.0	151.9	3.5
	10/19/2010 15:30	399	6.0	175.0	15.7	8.1	56.5	250.0	151.9	3.5
	10/19/2010 15:31	399	6.0	175.0	15.8	8.1	56.4	250.0	151.9	3.5
	10/19/2010 15:32	399	6.0	175.0	15.8	8.1	56.4	250.0	151.9	
	10/19/2010 15:33	399	0.9	175.0	15.9	8.1	56.3	250.0	151.9	3.5
	10/19/2010 15:34	399	6.0	174.0	16.0	8.2	56.3	250.0	151.9	3.5
	10/19/2010 15:35	399	0.9	174.0	16.0	8.2	56.4	250.0	151.9	3.5
	10/19/2010 15:36	399	6.0	174.0	16.1	8.2	56.4	250.0	151.8	3.5
	10/19/2010 15:37	399	6.1	174.0	16.2	8.2	56.3	250.0	151.8	3.5
.	10/19/2010 15:38	399	6.1	174.0	16.3	8.1	56.3	250.0	151.8	3,55
	10/19/2010 15:39	399	6.1	174.0	16.3	8.1	56.3	250.0	151.8	3.5
į	10/19/2010 15:40	399	6.1	174.0	16.4	8.1	56.5	250.0	151.8	3.5
1	10/19/2010 15:41	399	6.1	174.0	16.5	8.1	56.5	250.0	151.8	3,5
•	10/19/2010 15:42	399	6.1	174.0	16.5	8.0	56.6	250.0	151.8	3.5
-	10/19/2010 15:43	399	6.1	174.0	16.6	8.0	56.7	250.0	151.8	3.5
*	10/19/2010 15:44	399	6.1	174.0	16.7	8.0	56.8	250.0	151.8	3.5
	10/19/2010 15:45	399	6.1	174.0	16.8	8.0	57.0	250.0	151.8	3.5

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Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42 Air Pollution Control Stort (17:42)

Parameters
Operating
(APCS)
l System
Control
Pollution

lag No. I1-2404 Baghouse Inlet Date / Time Temperature 10/19/2010 15:46 399 10/19/2010 15:49 400 10/19/2010 15:51 400 10/19/2010 15:52 400 10/19/2010 15:53 400 10/19/2010 15:53 400 10/19/2010 15:55 400 10/19/2010 15:55 400 10/19/2010 15:56 400 10/19/2010 15:56 400 10/19/2010 15:59 400 10/19/2010 16:01 400 10/19/2010 16:02 400 10/19/2010 16:04 400 10/19/2010 16:05 400 10/19/2010 16:05 400 10/19/2010 16:05 400 10/19/2010 16:05 400 10/19/2010 16:05 400 10/19/2010 16:05 400 10/19/2010 16:06 400 10/19/2010 16:06 400 10/19/2010 16:09 400 10/19/2010 16:00 400	Venturi Pressure Drop in. H ₂ O 6.1	F1-2507 A/B Scrubber	FI-2508 Scrubber	Scrubber	-10Z	AC-101 / 102 / 103	VF-101 / 102 / 103	DP1-4402
	Venturi Pressure Drop in. H ₂ O 6.1	Scrubber	Scrubber	Scrubber	-			•
	Pressure Drop in. H ₂ O 6.1			!!!!	Scrubber			noon
	Drop in. H ₂ O 6.1	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	in. H ₂ O 6.1	Flow Rate	Rate	돖	Level	Feed Rate	Fluid Flow Rate	Drop
	6.1	mdb	mdb	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
	6.1	174.0	16.8	8.0	57.1	250.0	151.8	3.5
		174.0	16.9	8.1	57.2	250.0	151.8	3.5
		174.0	17.0	8.1	57.2	250.0	151.8	3.5
	6.1	174.0	17.1	8.1	57.2	250.0	151.8	3,5
	6.1	174.0	17.1	8.1	57.2	250.0	151.8	3.5
	6.1	174.0	17.2	8.1	57.1	250.0	151.8	3.5
	6.1	174.0	17.2	8.1	56.9	250.0	151.8	3.5
	6.1	174.0	17.1	8.1	56.9	250.0	151.8	3.5
	6.1	174.0	17.1	8.1	57.0	250.0	151.8	3.5
	6.1	174.0	17.0	8.1	57.1	250.0	151.8	3.5
	6.1	174.0	16.9	8.1	57.0	250.0	151.8	3.5
	6.1	174.0	16.9	8.1	56.9	250.0	151.8	3.5
	6.1	174.0	16.8	8 1	57.0	250.0	151.8	3.5
	6.1	173.0	16.7	8.1	57.1	250.0	151.8	3.5
	6.1	173.0	16.7	8.2	57.1	250.0	151.8	3.5
	6.1	173.0	16.6	8.2	97.0	250.0	151.8	3.5
	6.1	173.0	16.6	8.2	56.9	250.0	151.8	3.5
	6.1	173.0	16.5	8.2	56.8	250.0	151.8	3.5
	6.1	173.0	16.4	8.2	56.8	250.0	151.8	3.5
	6.1	173.0	16.3	8.2	56.8	250.0	151.8	3.5
	6.1	173.0	16.3	8.2	56.7	250.0	151.8	3.5
	6.1	173.0	16.2	8.1	56.7	250.0	151.8	3.5
_	6.1	173.0	16.2	8.1	56.7	250.0	151.8	3.5
	6.1	173.0	16.1	8.1	56.7	250.0	151.8	3.5
	6.1	173.0	16.0	8.1	56.7	250.0	151.8	3.5
	6.1	173.0	16.0	2.1	56.7	250.0	151.8	3.5
10/19/2010 16:12 400	6.1	173.0	15.9	8.1	56.7	250.0	151.8	3.5
ì	6.1	173.0	15.8	8.1	56.8	250.0	151.8	3.5
10/19/2010 16:14 400	6.1	173.0	15.8	8.1	56.8	250.0	151.8	3.5
	6.1	173.0	15.7	8.1	56.8	250.0	151.8	3.5
10/19/2010 16:16 400	6.1	173.0	15.7	8.1	56.9	250.0	151.8	3.5
10/19/2010 16:17 400	6.1	173.0	15.6	8.1	56.9	250.0	151.8	3.5
10/19/2010 16:18 400	6.1	173.0	15.6	8.1	57.0	250.0	151.8	3.5

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Norlite Corporation - Cohoes, NY - MACT CPT 2010

		: 11)	-11	
Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	玉	Level	Feed Rate	Fluid Flow Rate	Drop
Units	Ļ	in. H ₂ O	mdß	mdg	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time						:			
10/19/2010 16:19	400	6.1	173.0	15.5	8.2	57.0	250.0	151.8	3.5
10/19/2010 16:20	400	6.1	173.0	15.4	8.2	57.1	250.0	151.8	3.5
10/19/2010 16:21	400	6.1	173.0	15.4	8.2	57.3	250.0	151.8	3.5
10/19/2010 16:22	400	6.1	173.0	15.3	8.2	57.3	250.0	151.8	3.5
10/19/2010 16:23	400	6.1	173.0	15.3	8.2	57.3	250.0	151.8	3.5
10/19/2010 16:24	400	6.1	173.0	15.2	8.2	57.3	250.0	151.8	3.5
10/19/2010 16:25	400	6.1	173.0	15.2	8,2	57.4	250.0	151.8	3.5
10/19/2010 16:26	400	6.1	173.0	15.1	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:27	400	6.1	173.0	15.0	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:28	401	6.1	173.0	15.0	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:29	401	6.1	173.0	14.9	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:30	401	6.1	173.0	14.9	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:31	401	6.1	173.0	14.8	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:32	401	6.1	173.0	14.7	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:33	401	6.1	173.0	14.7	8.2	57.4	250.0	151.9	3.5
10/19/2010 16:34	401	6.1	173.0	14.6	8.2	57.4	250.0	151.9	3.5
10/19/2010 16:35	401	6.1	173.0	14.6	6.1	57.3	250.0	151.9	3.5
10/19/2010 16:36	401	6.1	173.0	14.5	8.1	57.4	250.0	151.9	3.5
10/19/2010 16:37	401	6.1	173.0	14.5	 1	57.6	250.0	151.9	3.5
10/19/2010 16:38	401	6.1	173.0	14.4	8.1	57.8	250.0	151.9	3.5
10/19/2010 16:39	401	6.1	173.0	14.4		57.9	250.0	151.9	3.5
10/19/2010 16:40	401	6.1	173.0	14.3	8.1	58.0	250.0	151.9	3.5
10/19/2010 16:41	401	6.1	173.0	14.2	8.1	58.1	250.0	151.9	3.5
10/19/2010 16:42	401	6.1	173.0	14.2	8.2	58.2	250.0	151.9	3.5
10/19/2010 16:43	401	6.1	173.0	14.1	8.2	58.3	250.0	151.9	3.5
10/19/2010 16:44	401	6.1	173.0	14.1	8.2	58.4	250.0	151.9	3.5
10/19/2010 16:45	401	6.1	173.0	14.0	8.2	58.5	250.0	151.9	3.5
10/19/2010 16:46	401	6.1	173.0	13.9	8.2	58.6	250.0	151.9	3.5
10/19/2010 16:47	401	6.1	173.0	13.9	8.2	58.6	250.0	151.9	3.5
10/19/2010 16:48	401	6.1	173.0	13.8	8.2	58.6	250.0	151.9	3.5
10/19/2010 16:49	401	6.1	173.0	13.7	8.2	58.6	250.0	151.9	3.5
10/19/2010 16:50	401	6.1	173.0	13.7	8.2	58.6	250.0	151.9	3.5
10/19/2010 16:51	401	6.1	173.0	13.6	8.2	58.6	250.0	151.9	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010

H Colorest Color	1					1		: 11		
Baginouse Vennuti Scrubber December Temperature Drop Flow Raise Raise Heat Feed Raise Fluid Flow Raise Flow Raise Phun Raise Ph	Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
Inlet Pressure Recirculation Blowdown Light Tank Line Line Carrier Flow Rate Rate Plud Row Rate Fluid Flow Rate Sch 250.00 151.9 Sch <td></td> <td>Baghouse</td> <td>Venturi</td> <td>Scrubber</td> <td>Scrubber</td> <td>Scrubber</td> <td>Scrubber</td> <td></td> <td></td> <td>Ducon</td>		Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Tomporature Drop Flow Rate PH ale Level Feed Rate Fluid Flow Rate 401 6.1 173.0 13.6 8.2 58.6 250.0 151.9 401 6.1 173.0 13.6 8.2 58.5 250.0 151.9 401 6.1 173.0 13.5 8.2 58.6 250.0 151.9 401 6.1 173.0 13.5 8.2 58.6 250.0 151.9 401 6.1 173.0 13.5 8.2 58.6 250.0 151.9 401 6.1 173.0 13.5 8.2 58.6 250.0 151.9 401 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 <td< td=""><td>Parameter</td><td>Inlet</td><td>Pressure</td><td>Recirculation</td><td>Blowdown</td><td>Liquid</td><td>Tank</td><td>Lime</td><td>Lime Carrier</td><td>Pressure</td></td<>	Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
*F In. H ₂ O gpm pH units % Ht lbhr sed 401 6.1 17320 13.6 8.2 58.5 250.0 151.9 401 6.1 17320 13.6 8.2 58.5 250.0 151.9 401 6.1 17320 13.5 8.2 58.6 250.0 151.9 401 6.1 1730 13.5 8.2 58.6 250.0 151.9 401 6.1 1730 13.5 8.2 58.6 250.0 151.9 401 6.1 1730 13.5 8.2 58.6 250.0 151.9 401 6.1 1730 13.5 8.2 58.6 250.0 151.9 401 6.1 1730 13.5 8.2 58.6 250.0 151.9 402 6.1 1730 13.5 8.2 58.6 250.0 151.9 403 6.1 1730 13.5 8.2		Temperature	Drop	Flow Rate	Rate	됩	Level	Feed Rate	Fluid Flow Rate	Drop
401 61 1720 136 82 586 2500 1513 401 61 1730 136 82 585 2500 1513 401 61 1730 135 82 585 2500 1519 401 61 1730 135 82 586 2500 1519 401 61 1730 135 82 586 2500 1519 401 61 1730 135 82 586 2500 1519 401 61 1730 135 82 586 2500 1519 401 61 1730 135 82 586 2500 1519 400 61 1730 135 82 586 2500 1519 400 61 1730 135 82 586 2500 1519 400 61 1730 135 82 586 2500	Units	Ļ	in. H ₂ 0	mdb	mdg	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
401 61 173.0 13.6 68.6 250.0 161.9 401 6.1 173.0 13.6 8.2 58.6 250.0 161.9 401 6.1 173.0 13.5 8.2 58.6 250.0 161.9 401 6.1 173.0 13.5 8.2 58.6 250.0 161.9 401 6.1 173.0 13.5 8.2 58.6 250.0 161.9 401 6.1 173.0 13.5 8.2 58.6 250.0 161.9 401 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2	Date / Time									
401 6,1 173.0 136 8.2 58.5 250.0 151.9 401 6,1 173.0 13.5 8.2 58.6 250.0 151.9 401 6,1 173.0 13.5 8.2 58.6 250.0 151.9 401 6,1 173.0 13.5 8.2 58.6 250.0 151.9 401 6,1 173.0 13.5 8.2 58.6 250.0 151.9 401 6,1 173.0 13.5 8.2 58.6 250.0 151.9 401 6,1 173.0 13.5 8.2 58.6 250.0 151.9 401 6,1 173.0 13.5 8.2 58.6 250.0 151.9 400 6,1 173.0 13.5 8.2 58.6 250.0 151.9 400 6,1 173.0 13.5 8.2 58.6 250.0 151.9 400 6,1 173.0 13.5	10/19/2010 16:52	401	6.1	173.0	13.6	8.2	58.6	250.0	151.9	3.5
401 61 1730 135 82 586 2600 1619 401 61 1730 135 82 586 2600 1619 401 61 1730 135 82 586 2600 1619 401 61 1730 135 82 586 2600 1619 401 61 1730 135 82 586 2600 1619 401 61 1730 135 82 586 2600 1619 401 61 1730 135 82 586 2600 1619 400 61 1730 135 82 586 2600 1619 400 61 1730 135 82 586 2600 1619 400 61 1730 135 82 586 2600 1619 400 61 1730 135 82 586 2600	10/19/2010 16:53	401	6.1	173.0	13.6	8.2	58.5	250.0	151.9	3.5
401 61 1730 135 82 586 2500 1519 401 61 1730 135 82 586 2500 1519 401 61 1730 135 82 586 2500 1519 401 61 1730 135 82 586 2500 1519 401 61 1730 135 82 586 2500 1519 400 61 1730 135 82 586 2500 1519 400 61 1730 135 82 586 2500 1519 400 61 1730 135 82 586 2500 1519 400 61 1730 135 82 586 2500 1519 400 61 1730 135 82 586 2500 1519 400 61 1730 135 82 586 2500	10/19/2010 16:54	401	6.1	173.0	13.5	8.2	58.5	250.0	151.9	3.5
401 61 1730 135 82 586 2600 151.9 401 6.1 1730 135 82 58.6 2600 151.9 401 6.1 1730 135 82 58.6 250.0 151.9 401 6.1 1730 135 82 58.6 250.0 151.9 400 6.1 1730 135 82 58.6 250.0 151.9 400 6.1 1730 135 82 58.6 250.0 151.9 400 6.1 1730 135 82 58.6 250.0 151.9 400 6.1 1730 13.5 82 58.6 250.0 151.9 400 6.1 1730 13.5 82 58.6 250.0 151.9 400 6.1 1730 13.5 82 58.6 250.0 151.9 400 6.1 1730 13.5 82 <t< td=""><td>10/19/2010 16:55</td><td>401</td><td>6.1</td><td>173.0</td><td>13.5</td><td>8.2</td><td>58.6</td><td>250.0</td><td>151.9</td><td>3.5</td></t<>	10/19/2010 16:55	401	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
401 6.1 1730 135 8.2 58.5 250.0 151.9 401 6.1 1730 13.5 8.2 58.5 250.0 151.9 401 6.1 1730 13.5 8.2 58.5 250.0 151.9 401 6.1 1730 13.5 8.2 58.6 250.0 151.9 400 6.1 1730 13.5 8.2 58.6 250.0 151.9 400 6.1 1730 13.5 8.2 58.6 250.0 151.9 400 6.1 1730 13.5 8.2 58.6 250.0 151.9 400 6.1 1730 13.5 8.2 58.6 250.0 151.9 400 6.1 1730 13.5 8.2 58.6 250.0 151.9 400 6.1 1730 13.5 8.2 58.6 250.0 152.0 400 6.1 1730 13.5 <t< td=""><td>10/19/2010 16:56</td><td>401</td><td>6.1</td><td>173.0</td><td>13.5</td><td>8.2</td><td>58.6</td><td>250.0</td><td>151.9</td><td>3.5</td></t<>	10/19/2010 16:56	401	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
401 6.1 173.0 13.5 8.2 58.5 250.0 161.9 401 6.1 173.0 13.5 8.2 58.5 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 162.0 400 6.1 173.0 13.5 8.2 58.6 250.0 162.0 400 6.1 173.0 13.5 <td>10/19/2010 16:57</td> <td>401</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.6</td> <td>250.0</td> <td>151.9</td> <td>3.5</td>	10/19/2010 16:57	401	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
401 6.1 173.0 13.5 8.2 58.5 250.0 161.9 401 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 161.9 400 6.1 173.0 13.5 8.2 58.6 250.0 162.0 400 6.1 173.0 13.5 8.2 58.6 250.0 162.0 400 6.1 173.0 13.5 8.2 58.6 250.0 162.0 400 6.1 173.0 13.5 <td>10/19/2010 16:58</td> <td>401</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.5</td> <td>250.0</td> <td>151.9</td> <td>3.5</td>	10/19/2010 16:58	401	6.1	173.0	13.5	8.2	58.5	250.0	151.9	3.5
401 61 173.0 135 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.5 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5	10/19/2010 16:59	401	6.1	173.0	13.5	8.2	58.5	250.0	151.9	3.5
400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 <td>10/19/2010 17:00</td> <td>401</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.6</td> <td>250.0</td> <td>151.9</td> <td>3.5</td>	10/19/2010 17:00	401	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 <td>10/19/2010 17:01</td> <td>400</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.6</td> <td>250.0</td> <td>151.9</td> <td>S.S.</td>	10/19/2010 17:01	400	6.1	173.0	13.5	8.2	58.6	250.0	151.9	S.S.
400 6,1 173,0 13,5 8,2 58,5 250,0 151,9 400 6,1 173,0 13,5 8,2 58,5 250,0 151,9 400 6,1 173,0 13,5 8,2 58,6 250,0 151,9 400 6,1 173,0 13,5 8,2 58,6 250,0 151,9 400 6,1 173,0 13,5 8,2 58,6 250,0 152,0 400 6,1 173,0 13,5 8,2 58,6 250,0 152,0 400 6,1 173,0 13,5 8,2 58,6 250,0 152,0 400 6,1 173,0 13,5 8,2 58,6 250,0 152,0 400 6,1 173,0 13,5 8,2 58,6 250,0 152,0 400 6,1 173,0 13,5 8,2 58,6 250,0 152,0 400 6,1 173,0 13,5 <td>10/19/2010 17:02</td> <td>400</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.6</td> <td>250.0</td> <td>151.9</td> <td>3.5</td>	10/19/2010 17:02	400	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
400 6.1 173.0 13.5 8.2 58.5 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 <td>10/19/2010 17:03</td> <td>400</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.6</td> <td>250.0</td> <td>151.9</td> <td>3.5</td>	10/19/2010 17:03	400	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 <td>10/19/2010 17:04</td> <td>400</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.5</td> <td>250.0</td> <td>151.9</td> <td>3.5</td>	10/19/2010 17:04	400	6.1	173.0	13.5	8.2	58.5	250.0	151.9	3.5
400 6.1 173.0 13.5 8.2 58.6 250.0 151.9 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.1 58.0 250.0 152.0 400 6.1 173.0 13.5 <td>10/19/2010 17:05</td> <td>400</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.5</td> <td>250.0</td> <td>151.9</td> <td>3.5</td>	10/19/2010 17:05	400	6.1	173.0	13.5	8.2	58.5	250.0	151.9	3.5
400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 400 6.1 173.0 13.5 <td>10/19/2010 17:06</td> <td>400</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.6</td> <td>250.0</td> <td>151.9</td> <td>3.5</td>	10/19/2010 17:06	400	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.1 58.0 250.0 152.0 400 6.1 173.0 13.5 8.1 58.0 250.0 152.0 400 6.1 173.0 13.5 <td>10/19/2010 17:07</td> <td>400</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.6</td> <td>250.0</td> <td>152.0</td> <td>3.5</td>	10/19/2010 17:07	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.1 58.0 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 400 6.1 173.0 13.5 <td>10/19/2010 17:08</td> <td>400</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.6</td> <td>250.0</td> <td>152.0</td> <td>3.5</td>	10/19/2010 17:08	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.7 250.0 152.0 400 6.1 173.0 13.5 8.1 58.0 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 400 6.1 173.0 13.5 <td>10/19/2010 17:09</td> <td>400</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.6</td> <td>250.0</td> <td>152.0</td> <td>3.5</td>	10/19/2010 17:09	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.1 58.0 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 <td>10/19/2010 17:10</td> <td>400</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.6</td> <td>250.0</td> <td>152.0</td> <td>3.5</td>	10/19/2010 17:10	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.1 58.0 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 <td>10/19/2010 17:11</td> <td>400</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.6</td> <td>250.0</td> <td>152.0</td> <td>3.5</td>	10/19/2010 17:11	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.1 58.0 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 <td>10/19/2010 17:12</td> <td>400</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.6</td> <td>250.0</td> <td>152.0</td> <td>3.55</td>	10/19/2010 17:12	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.55
400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.7 250.0 152.0 400 6.1 173.0 13.5 8.1 58.0 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 <td>10/19/2010 17:13</td> <td>400</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.6</td> <td>250.0</td> <td>152.0</td> <td>3.5</td>	10/19/2010 17:13	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.2 58.7 250.0 152.0 400 6.1 173.0 13.5 8.1 58.7 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 <td>10/19/2010 17:14</td> <td>400</td> <td>6.1</td> <td>173.0</td> <td>13.5</td> <td>8.2</td> <td>58.6</td> <td>250.0</td> <td>152.0</td> <td>3.5</td>	10/19/2010 17:14	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
400 6.1 173.0 13.5 8.2 58.6 250.0 152.0 400 6.1 173.0 13.5 8.1 58.7 250.0 152.0 400 6.1 173.0 13.5 8.1 58.9 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0	10/19/2010 17:15	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
400 6.1 173.0 13.5 8.2 58.7 250.0 152.0 400 6.1 173.0 13.5 8.1 58.9 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0	10/19/2010 17:16	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
400 6.1 173.0 13.5 8.1 58.9 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0	10/19/2010 17:17	400	6.1	173.0	13.5	8.2	58.7	250.0	152.0	3.5
400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0	10/19/2010 17:18	400	6.1	173.0	13.5	8.1	58.9	250.0	152.0	3.5
400 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0	10/19/2010 17:19	400	6.1	173.0	13.5	8.1	59.0	250.0	152.0	3.5
399 6.1 173.0 13.5 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0	10/19/2010 17:20	400	6.1	173.0	13.5	8.1	59.0	250.0	152.0	3.5
399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0	10/19/2010 17:21	399	6.1	173.0	13.5	8.1	59.0	250.0	152.0	3.5
399 6.1 173.0 13.4 8.1 59.0 250.0 152.0 399 6.1 173.0 13.4 8.1 59.0 250.0 152.0	10/19/2010 17:22	399	6.1	173.0	13.5	6.	59.0	250.0	152.0	3.5
399 6.1 173.0 13.4 8.1 59.0 250.0 152.0	10/19/2010 17:23	399	6.1	173.0	13.4	8.1	59.0	250.0	152.0	3.5
	10/19/2010 17:24	399	6.1	173.0	13.4	8.1	29.0	250.0	152.0	3.5

October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	표	Level	Feed Rate	Fluid Flow Rate	Drop
Units	ት	in. H ₂ O	шdб	mdb	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time									
10/19/2010 17:25	399	6.1	173.0	13.4	8.1	29.0	250.0	152.0	3.5
10/19/2010 17:26	389	6.1	173.0	13.4	8.1	59.0	250.0	152.1	3.5
10/19/2010 17:27	399	6.1	173.0	13.4	8.1	59.0	250.0	152.1	3.5
10/19/2010 17:28	399	6.1	173.0	13.4	8.1	59.0	250.0	152.1	3.5
10/19/2010 17:29	399	6.1	173.0	13.4	8.1	59.0	250.0	152.1	3.5
10/19/2010 17:30	399	6.1	173.0	13.4	8.2	59.0	250.0	152.1	3.5
10/19/2010 17:31	399	6.1	173.0	13.4	8.2	59.0	250.0	152.1	3.5
10/19/2010 17:32	399	6.1	173.0	13.4	8.2	59.0	250.0	152.2	3.5
10/19/2010 17:33	399	6.1	173.0	13.4	8.2	59.0	250.0	152.2	3.5
10/19/2010 17:34	399	6.1	173.0	13.4	8.2	29.0	250.0	152.2	3.5
10/19/2010 17:35	399	6.1	173.0	13.4	8.2	59.0	250.0	152.2	3.5
10/19/2010 17:36	399	6.1	173.0	13.4	8.2	59.0	250.0	152.2	3.5
10/19/2010 17:37	389	6.1	173.0	13.4	8.2	58.9	250.0	152,2	3.5
10/19/2010 17:38	399	6.1	173.0	13.4	8.2	58.7	250.0	152.2	3.5
10/19/2010 17:39	399	6.1	173.0	13.4	8.2	58.5	250.0	152.2	3.5
10/19/2010 17:40	399	6.1	173.0	13.4	8.2	58.3	250.0	152.2	3.5
10/19/2010 17:41	399	6.1	173.0	13.4	8.2	58.2	250.0	152.2	3.5
10/19/2010 17:42	399	6.1	173.0	13.4	8.2	58.0	250.0	152.2	3.5
	,								
AVERAGE	400	6.1	173.7	14.6	8.1	57.5	250.0	151.9	3.5
MINIMOM	399	6.0	173.0	12.8	8.0	56.3	250.0	151.8	3.5
MAXIMUM	402	6.1	175.0	17.2	8.2	59.0	250.0	152.2	3.5

October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

		= 11		2000	5	J Opela	ution control system (Ar es) operating ratameters	Ш	
Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	చ	Level	Feed Rate	Fluid Flow Rate	Drop
Units Date / Time	ĥ	in. H ₂ O	mdb	mdg	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
10/19/2010 17:58	400	6.1	173.0	13.4	8.1	57.6	250.0	152.2	3.5
10/19/2010 17:59	400	6.1	173.0	13.4	8.2	57.5	250.0	152.2	3.5
10/19/2010 18:00	400	6.1	173.0	13.4	8.2	57.4	250.0	152.2	3.5
10/19/2010 18:01	400	6.1	173.0	13.4	8.2	57.5	250.0	152.2	3.5
10/19/2010 18:02	400	6.1	173.0	13.4	8.2	57.6	250.0	152.2	3.5
10/19/2010 18:03	400	6.1	173.0	13.4	8.3	57.7	250.0	152.2	3.5
10/19/2010 18:04	400	6.1	173.0	13.4	8.3	57.6	250.0	152.2	3.5
10/19/2010 18:05	400	6.1	173.0	13.4	89.3	57.4	250.0	152.2	3.5
10/19/2010 18:06	400	6.1	173.0	13.3	8.3	57.5	250.0	152.2	3.5
10/19/2010 18:07	400	6.1	173.0	13.3	8.3	57.6	250.0	152.2	3.5
10/19/2010 18:08	400	6.1	173.0	13.3	8.4	57.6	250.0	152,2	3.5
10/19/2010 18:09	401	6.1	173.0	13.3	8.4	57.6	250.0	152.2	3.5
10/19/2010 18:10	401	6.1	173.0	13.3	8.4	57.5	250.0	152.2	3.5
10/19/2010 18:11	401	6.1	173.0	13.3	8.4	57.6	250.0	152.2	3.5
10/19/2010 18:12	401	6.1	174.0	13.3	8.4	57.6	250.0	152.2	3.5
10/19/2010 18:13	401	6.1	174.0	13.3	8.4	57.6	250.0	152.2	3.5
10/19/2010 18:14	401	6.1	174.0	13.3	8.4	57.5	250.0	152.2	3.5
10/19/2010 18:15	401	6.1	173.0	13.3	8.4	57.4	250.0	152.2	3.5
10/19/2010 18:16	401	6.1	173.0	13.3	8.4	57.3	250.0	152.2	3.5
10/19/2010 18:17	401	6.1	173.0	13,3	8.4	57.3	250.0	152.2	3.5
10/19/2010 18:18	401	6.1	173.0	13.3	8.4	57.2	250.0	152.2	3.5
10/19/2010 18:19	401	6.1	173.0	13.3	8.4	57.1	250.0	152.2	3.5
10/19/2010 18:20	401	6.1	173.0	13.3	8.4	56.9	250.0	152.2	3.5
10/19/2010 18:21	401	6.1	173.0	13.3	8.3	56.9	250.0	152.2	3.5
10/19/2010 18:22	401	6.1	173.0	13.3	8.3	56.9	250.0	152.2	3.5
10/19/2010 18:23	401	6.1	173.0	13.3	8.3	56.9	250.0	152.2	3.5
10/19/2010 18:24	401	6.1	173.0	13.3	8.3	56.9	250.0	152.2	3.5
10/19/2010 18:25	401	6.1	173.0	13.3	8.3	56.8	250.0	152.2	3.5
10/19/2010 18:26	401	6.1	173.0	13.3	8.3	56.8	250.0	152.2	3.5
10/19/2010 18:27	401	6.1	173.0	13.3	8.3	56.9	250.0	152.2	3.5
10/19/2010 18:28	401	6.1	173.0	13.3	8	56.9	250.0	152.2	3.5
10/19/2010 18:29	401	6.1	173.0	13.3	8.3	56.9	250.0	152.2	3.5
10/19/2010 18:30	401	6.1	173.0	13.3	8.3	56.8	250.0	152.2	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010

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Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber	•		Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	표	Level	Feed Rate	Fluid Flow Rate	Drop
Units Date / Time	ŗ.	in. H ₂ O	mdb	mdb	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
10/19/2010 18:31	401	6.1	173.0	13.3	8.3	56.8	250.0	152.1	3.5
10/19/2010 18:32	401	6.1	173.0	13.3	8.3	56.8	250.0	152.1	3.5
10/19/2010 18:33	401	6.1	173.0	13.3	8.3	56.9	250.0	152.1	3.5
10/19/2010 18:34	401	6.1	173.0	13.3	8.3	57.0	250.0	152.1	3.5
10/19/2010 18:35	401	6.1	173.0	13.3	8.2	57.0	250.0	152.1	3.5
10/19/2010 18:36	401	6.1	173.0	13.3	8.2	57.0	250.0	152.1	3.5
10/19/2010 18:37	401	6.1	173.0	13.3	8.2	57.0	250.0	152.1	3.5
10/19/2010 18:38	401	6.1	173.0	13.3	8.2	57.1	250.0	152.1	3.5
10/19/2010 18:39	401	6.1	173.0	13.3	8.2	57.2	250.0	152.1	3.5
10/19/2010 18:40	401	6.1	173.0	13.3	8.2	57.2	250.0	152.1	3.5
10/19/2010 18:41	401	6.1	173.0	13.3	8.3	57.1	250.0	152.1	3.5
10/19/2010 18:42	401	6.1	173.0	13.2	8.3	57.0	250.0	152.1	3.5
10/19/2010 18:43	401	6.1	173.0	13.2	8.3	57.0	250.0	152.1	3.5
10/19/2010 18:44	400	6.1	173.0	13.2	8.3	57.1	250.0	152.1	3.5
10/19/2010 18:45	400	6.1	173.0	13.2	8.3	57.2	250.0	152.1	3.5
10/19/2010 18:46	400	6.1	173.0	13.2	4.8	57.2	250.0	152.0	3.5
10/19/2010 18:47	400	6.1	173.0	13.2	8.4	57.1	250.0	152.0	3.5
10/19/2010 18:48	400	6.1	173.0	13.2	8.4	57.0	250.0	152.0	3.5
10/19/2010 18:49	400	6.1	173.0	13.2	8.4	57.0	250.0	152.0	3.5
10/19/2010 18:50	401	6.1	173.0	13.2	8.4	57.0	250.0	152.0	3.5
10/19/2010 18:51	401	6.1	173.0	13.2	8.4	56.9	250.0	152.0	3.5
10/19/2010 18:52	401	6.1	173.0	13.2	8.4	56.8	250.0	152.0	3.5
10/19/2010 18:53	401	6.1	173.0	13.2	8.4	56.6	250.0	152.0	3.5
10/19/2010 18:54	401	6.1	173.0	13.2	8.4	56.5	250.0	152.0	3.5
10/19/2010 18:55	401	6.1	173.0	13.2	8.3	56.3	250.0	152.0	3.5
10/19/2010 18:56	401	6.1	173.0	13.2	8.3	56.2	250.0	152.0	3.5
10/19/2010 18:57	401	6.1	173.0	13.2	8.3	56.2	250.0	152.0	3.5
10/19/2010 18:58	400	6.1	173.0	13.2	8.3	56.1	250.0	152.0	3.5
10/19/2010 18:59	400	6.1	173.0	13.2	8.2	56.1	250.0	152.0	3.5
10/19/2010 19:00	400	6.1	173.0	13.2	8.2	56.2	250.0	152.0	3.5
10/19/2010 19:01	400	6.1	173.0	13.2	8.2	56.2	250.0	152.0	3.5
10/19/2010 19:02	400	6.1	173.0	13.2	8.2	56.2	250.0	152.0	3.5
10/19/2010 19:03	400	6.1	173.0	13.2	8.2	56.1	250.0	151.9	3.5

October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00 Norlite Corporation - Cohoes, NY - MACT CPT 2010

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Tag No	TT-2404	DDT 2303	ET. 2607 A/B ET. 2508 2509 A	ET 2500	0, V 003C	• 1 1 100	AC 104 / 402 / 403	VE 404 / 400 / 400	1400
- P	10+7-11	CI 1-2303	מאי זארצ-ו -	r 1-2300	2003 700	701-10	501 / 501 / 101-54	601 / 501 / 101-14	20440Z
	Bagnouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber	•		Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	된	Level	Feed Rate	Fluid Flow Rate	Drop
Units	۴	in. H ₂ O	md6	mdg	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time									
10/19/2010 19:04	400	6.1	173.0	13,2	8.2	56.1	250.0	151.9	3.5
10/19/2010 19:05	400	6.1	173.0	13,2	8.2	56.2	250.0	151.9	3.5
10/19/2010 19:06	400	6.1	173.0	13.2	8.2	56.2	250.0	151.9	3.5
10/19/2010 19:07	400	6.1	173.0	13.2	8.2	56.2	250.0	151.9	3.5
10/19/2010 19:08	400	6.1	173.0	13.2	8.2	56.1	250.0	151.9	3.5
10/19/2010 19:09	400	6.1	173.0	13.2	8.2	56.1	250.0	151.9	3.5
10/19/2010 19:10	400	6.1	173.0	13.2	8.1	56.1	250.0	151.9	3.5
10/19/2010 19:11	400	6.1	173.0	13.2	8.1	56.0	250.0	151.9	3.5
10/19/2010 19:12	400	6.1	173.0	13.2	8.1	55.9	250.0	151.9	3.5
10/19/2010 19:13	400	6.1	173.0	13.2	8.1	55.9	250.0	151.9	3.5
10/19/2010 19:14	400	6.1	173.0	13.2	8.1	55.8	250.0	151.9	3.5
10/19/2010 19:15	400	6.1	173.0	13.2	8.1	55.8	250.0	151.9	3.5
10/19/2010 19:16	400	6.1	173.0	13.2	8.1	55.9	250.0	151.9	3.5
10/19/2010 19:17	400	6.1	173.0	13.2	8.1	55.9	250.0	151.9	3.5
10/19/2010 19:18	400	6.1	173.0	13.2	8.1	55.9	250.0	151.9	3.5
10/19/2010 19:19	400	6.1	173.0	13.2	8.1	55.9	250.0	151.9	3.5
10/19/2010 19:20	400	6.1	173.0	13.2	8.2	55.8	250.0	151.9	3.5
10/19/2010 19:21	400	6.1	173.0	13.2	8.2	55.8	250.0	151.9	3.5
10/19/2010 19:22	400	6.1	173.0	13.2	8.2	55.9	250.0	151.9	3.5
10/19/2010 19:23	400	6.1	173.0	13.2	8.2	55.9	250.0	151.9	3.5
10/19/2010 19:24	400	6.1	173.0	13.2	8.2	56.0	250.0	151.9	3.5
10/19/2010 19:25	400	6.1	173.0	13.2	8.2	56.0	250.0	151.9	3.5
10/19/2010 19:26	400	6.1	173.0	13.2	8.2	55.8	250.0	151.9	3.5
10/19/2010 19:27	400	6.1	173.0	13.2	6.1	55.7	250.0	151.9	3.5
10/19/2010 19:28	400	6.1	173.0	13.2	8.1	55.7	250.0	151.9	3.5
10/19/2010 19:29	400	6.1	173.0	13.2	8.0	55.6	250.0	151.9	3.5
10/19/2010 19:30	400	6.1	173.0	13.2	8.0	55.7	250.0	151.9	3.5
10/19/2010 19:31	400	6.1	173.0	13.2	8.0	55.6	250.0	151.9	3.5
10/19/2010 19:32	401	6.1	173.0	13.2	8.1	55.5	250.0	151.9	3.5
10/19/2010 19:33	401	6.1	173.0	13.2	8.1	55.5	250.0	151.9	3,5
10/19/2010 19:34	401	6.1	173.0	13.2	8.1	55.5	250.0	151.9	3.5
10/19/2010 19:35	401	6.1	174.0	13.2	8.2	55.5	250.0	151.9	3.5
10/19/2010 19:36	401	6.1	174.0	13.2	8.2	55.5	250.0	151.9	3.5

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Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
•	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	듄	Level	Feed Rate	Fluid Flow Rate	Drop
Units	ኑ	in. H ₂ O	mdb	mdg	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time					,				
10/19/2010 19:37	401	6.1	174.0	13.2	8.2	55.4	250.0	151.9	3.5
10/19/2010 19:38	401	6.1	174.0	13,2	8.2	55.2	250.0	151.9	3.5
10/19/2010 19:39	401	6.1	174.0	13.2	8.2	55.3	250.0	151.9	3.5
10/19/2010 19:40	401	6.1	174.0	13.2	8.2	55.3	250.0	151.9	3.5
10/19/2010 19:41	401	6.1	174.0	13.2	8.2	55.3	250.0	151,9	3.5
10/19/2010 19:42	401	6.1	174.0	13.2	8.1	55.4	250.0	151.9	3.5
10/19/2010 19:43	401	6.1	174.0	13.1	8.1	55.4	250.0	151.9	3.5
10/19/2010 19:44	401	6.1	174.0	13.1	8.1	55.2	250.0	151.9	3.5
10/19/2010 19:45	401	6.1	174.0	13.1	8.1	55.2	250.0	151.9	3.5
10/19/2010 19:46	401	6.1	174.0	13.1	8.1	55.3	250.0	151.9	3.5
10/19/2010 19:47	401	6.1	174.0	13.1	8.1	55.4	250.0	151.9	3.5
10/19/2010 19:48	401	6.1	174.0	13.1	8.1	55.5	250.0	151.9	3.5
10/19/2010 19:49	400	6.1	174.0	13.1	8.0	55.4	250.0	151.9	3.5
10/19/2010 19:50	400	6.1	174.0	13.1	8.0	55.3	250.0	151.9	3.5
10/19/2010 19:51	400	6.1	174.0	13.1	8.0	55.2	250.0	151.9	3.5
10/19/2010 19:52	400	6.1	174.0	13.1	8.1	55.2	250.0	151.9	3.5
10/19/2010 19:53	400	6.1	174.0	13.1	8.1	55.4	250.0	151.8	3.5
10/19/2010 19:54	400	6.1	174.0	13.1	8.1	55.5	250.0	151.8	3.5
10/19/2010 19:55	400	6.1	174.0	13.1	8.1	55.5	250.0	151.8	3.5
10/19/2010 19:56	400	6.1	174.0	13.1	8,1	55.6	250.0	151.8	3.5
10/19/2010 19:57	400	6.1	174.0	13.1	8.1	55.5	250.0	151.8	3.5
10/19/2010 19:58	400	6.1	174.0	13.1	8,1	55.5	250.0	151.8	3.5
10/19/2010 19:59	400	6.1	174.0	13.1	8.1	55.5	250.0	151.8	3.5
10/19/2010 20:00	400	6.1	174.0	13.1	8.0	55.5	250.0	151.8	3,5
10/19/2010 20:01	400	6.1	174.0	13.1	8,0	55.5	250.0	151.8	3.5
10/19/2010 20:02	400	6.1	173.0	13.1	8.0	52.5	250.0	151.8	3.5
10/19/2010 20:03	400	6.1	173.0	13.1	8.0	55.6	250.0	151.8	3.5
10/19/2010 20:04	400	6.1	173.0	13.1	8.0	55.7	250.0	151.8	3.5
10/19/2010 20:05	400	6.1	173.0	13.1	8.0	55.6	250.0	151.9	3.5
10/19/2010 20:06	400	6.1	173.0	13.1	7.9	55.5	250.0	151.9	3.5
10/19/2010 20:07	400	6.1	173.0	13.1	7.9	55.5	250.0	151.9	3.5
10/19/2010 20:08	400	6.1	173.0	13.1	7.9	55.6	250.0	151.9	3.5
10/19/2010 20:09	400	6.1	173.0	13.1	7.9	55.7	250.0	151.9	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010

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DPT-4402	Ducon	Pressure	Drop	in. H ₂ O		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		151.9	151.9	151.9	151.9	151.9	151.8	151.8	151.8	151.8	151.8	151.8	151.8	151.8	151.8	151.8	151.8	151.8	151.8	151.7	151.7	151.8	151.7	151.8	151.8	151.8	151.7	151.8	151.7	151.8	151.8	151.8	151.8	151.8
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0
LT-102	Scrubber	Tank	Level	% Ht.		55.8	55.9	55.9	55.9	55.8	56.0	56.1	56.0	56.0	56.0	56.0	56.0	55.9	55.9	56.0	56.0	56.1	56.2	56.2	56.2	56.3	56.4	56.6	56.6	56.5	56.5	56.4	56.4	56.5	56.5	56.5	56.5	56.5
2509 A/B	Scrubber	Liquid	摄	pH units		8.0	8.0	8.0	8.0	8.0	6.7	7.9	7.9	7.9	7.9	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.9
FT-2508	Scrubber	Blowdown	Rate	mdg		13.1	13.1	13.1	13.1	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdg		173.0	174.0	174.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	. 173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
TT-2404	Baghouse	Inlet	Temperature	ř		400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	399	399	399	399	399	399	399	399	399	399	399	400	400	400	400
Tag No.	1	Parameter		Units	Date / IIMe	10/19/2010 20:10	10/19/2010 20:11	10/19/2010 20:12	10/19/2010 20:13	10/19/2010 20:14	10/19/2010 20:15	10/19/2010 20:16	10/19/2010 20:17	10/19/2010 20:18	10/19/2010 20:19	10/19/2010 20:20	10/19/2010 20:21	10/19/2010 20:22	10/19/2010 20:23	10/19/2010 20:24	10/19/2010 20:25	10/19/2010 20:26	10/19/2010 20:27	10/19/2010 20:28	10/19/2010 20:29	10/19/2010 20:30	10/19/2010 20:31	10/19/2010 20:32	10/19/2010 20:33	10/19/2010 20:34	10/19/2010 20:35	10/19/2010 20:36	10/19/2010 20:37	10/19/2010 20:38	10/19/2010 20:39	10/19/2010 20:40	10/19/2010 20:41	10/19/2010 20:42

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00

Parameters
) Operating
(APCS)
System
Control
Pollution
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				2000	, , ,	7 200	and the control of the cold of		
Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	Fd.	Level	Feed Rate	Fluid Flow Rate	Drop
Units	Ļ	in. H ₂ O	md6	gpm	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time									
10/19/2010 20:43	400	6.1	173.0	13.0	6.7	56.5	250.0	151.7	3.5
10/19/2010 20:44	400	6.1	173.0	13.0	7.8	56.5	250.0	151.7	3.5
10/19/2010 20:45	400	6.1	173.0	13.0	7.8	56.5	250.0	151.7	3.5
10/19/2010 20:46	400	6.1	173.0	13.0	7.9	56.5	250.0	151.7	3.5
10/19/2010 20:47	400	6.1	173.0	13.0	7.9	56.6	250.0	151.7	3.5
10/19/2010 20:48	400	6.1	173.0	13.0	7.9	56.6	250.0	151.7	3.5
10/19/2010 20:49	400	6.1	173.0	13.0	7.9	56.6	250.0	151.7	3.5
10/19/2010 20:50	400	6.1	173.0	13.0	7.9	56.6	250.0	151.7	3.5
10/19/2010 20:51	400	6.1	173.0	12.9	7.9	56.6	250.0	151.8	3.5
10/19/2010 20:52	400	6.1	173.0	12.9	7.9	56.6	250.0	151.8	3.5
10/19/2010 20:53	400	6.1	173.0	12.9	7.9	56.4	250.0	151,8	3.5
10/19/2010 20:54	400	6.1	173.0	12.9	7.9	56.4	250.0	151.8	3.5
10/19/2010 20:55	400	6.1	173.0	12.9	7.9	56.4	250.0	151.8	3.5
10/19/2010 20:56	400	6.1	173.0	12.9	7.9	56.5	250.0	151.8	3.5
10/19/2010 20:57	400	6.1	173.0	12.9	7.9	56.5	250.0	151.7	3.5
10/19/2010 20:58	400	6.1	173.0	12.9	7.9	56.5	250.0	151.7	3.5
10/19/2010 20:59	400	6.1	173.0	12.9	7.9	56.5	250.0	151.7	3.5
10/19/2010 21:00	400	6.1	173.0	12.9	7.9	56.4	250.0	151.7	3.5
AVERAGE	400	6.1	173.2	13.2	8.1	56.3	250.0	151.9	3.5
MINIMOM	399	6.1	173.0	12.9	7.8	55.2	250.0	151.7	3.5
MAXIMUM	401	6.1	174.0	13.4	8.4	57.7	250.0	152.2	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010

Venturi Scrubber Pressure Recirculation Drop Flow Rate in. H ₂ O gpm 5.3 175.0	Scrubber Blowdown Rate gpm 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7	Scrubber Liquid pH units pH units 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	Scrubber Tank Level % Ht. 56.4 56.4 56.4 56.4 56.3 56.3 56.3 56.3 56.3	Lime Feed Rate Ib/hr 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0	Lime Carrier Fluid Flow Rate . scfm . scfm . 148.7 . 148.7 . 148.7 . 148.8 . 148.8 . 148.8 . 148.8 . 148.8 . 148.8 . 148.8	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0
	Blowdown Rate gpm gpm 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7	PH units PH units B.0 B.0 B.0 B.0 B.0 B.0 B.0 B.0 B.0 B.0	Tank Level % Ht. 56.4 56.4 56.4 56.4 56.4 56.3 56.3 56.3 56.3	Lime Feed Rate Ib/hr 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0	Lime Carrier Fluid Flow Rate sofm 148.7 148.7 148.7 148.7 148.8 148.8 148.8 148.8	Pressure Drop in. H ₂ O 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0
		Hd units 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	% Ht. % Ht. 56.4 56.4 56.4 56.4 56.4 56.4 56.4 56.	Feed Rate 1b/hr 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0	Fluid Flow Rate scfm 148.7 148.7 148.7 148.7 148.8 148.8 148.8 148.8	Отор in. H ₂ O 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0
	9pm 13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7	8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0	% Ht. % Ht. % Ht. % Ht. % Ht. % Pt.	250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0	148.7 148.7 148.7 148.7 148.7 148.8 148.8 148.8 148.8	1. H2O 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0
	13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7	0.0000000000000000000000000000000000000	56.4 56.4 56.4 56.4 56.3 56.3 56.3 56.3 56.3	250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0	148.7 148.7 148.7 148.7 148.7 148.8 148.8 148.8 148.8	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0
	13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7	0.0000000000000000000000000000000000000	56.4 56.4 56.4 56.4 56.3 56.3 56.3 56.3 56.3	250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0	148.7 148.7 148.7 148.7 148.7 148.8 148.8 148.8	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
	13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7		56.4 56.4 56.3 56.3 56.3 56.3 56.3 56.3	250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0	148.7 148.7 148.7 148.7 148.8 148.8 148.8 148.8	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0
	13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7	0.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00	56.4 56.4 56.3 56.3 56.4 56.3 56.4 56.3	250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0 250.0	148.7 148.7 148.7 148.7 148.8 148.8 148.8	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0
	13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7	0.00 0.	56.4 56.3 56.3 56.3 56.3 56.3 56.3	250.0 250.0 250.0 250.0 250.0 250.0 250.0	148.7 148.7 148.7 148.8 148.8 148.8 148.8	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0
	13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7	0.0000000000000000000000000000000000000	56.4 56.3 56.3 56.3 56.3 56.3	250.0 250.0 250.0 250.0 250.0 250.0 250.0	148.7 148.7 148.8 148.8 148.8 148.8 148.8	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0
	13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7	0.8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	56.3 56.3 56.3 56.3 56.5	250.0 250.0 250.0 250.0 250.0 250.0	148.7 148.7 148.8 148.8 148.8 148.8	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0
	13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7	0.80 8.00 8.00 8.00 8.00 8.00 8.00 8.00	56.3 56.3 56.3 56.5	250.0 250.0 250.0 250.0 250.0 250.0	148.7 148.8 148.8 148.8 148.8	0.6. 0.6. 0.6. 0.6. 0.6. 0.6. 0.6. 0.6.
	13.7 13.7 13.7 13.7 13.7 13.7 13.7 13.7	0.8 8.0 0.8 8.0 0.0 0.8 8.0 0.0 0.0 0.0	56.3 56.4 56.5	250.0 250.0 250.0 250.0 250.0	148.8 148.8 148.8 148.8 148.8	3.0
	13.7 13.7 13.7 13.7 13.7 13.7 13.7	0.8 8 8 0 8 0	56.3	250.0 250.0 250.0 250.0	148.8 148.8 148.8 148.8	3.0
	13.7 13.7 13.7 13.7 13.7 13.7 13.7	0.0000000000000000000000000000000000000	56.4	250.0 250.0 250.0	148.8 148.8 148.8	3.0
	13.7 13.7 13.7 13.7 13.7 13.7	0.8 8.0	56.5	250.0	148.8 148.8 148.8	3.0
	13.7 13.7 13.7 13.7 13.7 13.7	0.8 8.0	7 00	250.0	148.8	3.0
	13.7 13.7 13.7 13.7 13.7	0.8 8.0	4.00		148.8	3.0
	13.7	8.0	56.4	250.0		?
	13.7	0	56.4	250.0	148.8	3.0
	13.7	2	56.4	250.0	148.8	3.0
	13.7	8.0	56.4	250.0	148.8	3.0
	13.7	8.0	56.3	250.0	148.8	3.0
		8.0	56.4	250.0	148.8	3.0
	13.7	8.0	56.5	250.0	148.8	3.0
	13.7	8.0	56.5	250.0	148.8	3.0
	13.7	8.0	56.4	250.0	148.8	3.0
	13.7	8.0	56.4	250.0	148.8	3.0
1	13.7	8.0	56.4	250.0	148.8	3.0
	13.7	8.0	56.3	250.0	148.8	3.1
	13.7	8.0	56.3	250.0	148.8	3.1
5.3 175.0	13.7	8.0	56.3	250.0	148.8	3.1
5.3 175.0	13.7	8.0	56.5	250.0	148.8	3.1
5.3 175.0	13.7	8.0	56.5	250.0	148.8	3.1
5.3 175.0	13.7	8.0	56.4	250.0	148.9	3.1
5.4 175.0	13.7	8.0	56.4	250.0	148.9	3.1
5.4 175.0	13.7	8.0	56.4	250.0	148.9	3.1
5.4 175.0	13.7	8.0	56.3	250.0	148.9	3.1

Norlite Corporation - Cohoes, NY - MACT CPT 2010

Tod No	17 2404	DDT 2203	ET 2507 A/B	ET 2508	9500 A/B	1 100	AC-104 / 102 / 103	VE-104 / 109 / 103	COAA TOO
- ag 30.	+0+7		1 200 incz-1 1	0007-1-1	2003 AO	701-105	201 / 201 / 101-00	201 / 201 / 101-14	7044
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber	•		Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	핆	Level	Feed Rate	Fluid Flow Rate	Drop
Units	Ļ	in. H ₂ O	mdb	mdg	pH units	% H t .	lb/hr	scfm	in. H ₂ O
Date / Time									
10/20/2010 10:03	400	5.4	175.0	13.7	8.0	56.3	250.0	148.9	3.1
10/20/2010 10:04	400	5.4	175.0	13.7	8.0	56.3	250.0	148.9	5.7
10/20/2010 10:05	400	5.4	175.0	13.7	8.0	56.4	250.0	148.9	3.1
10/20/2010 10:06	400	5.4	175.0	13.7	8.0	56.5	250.0	148.9	3.1
10/20/2010 10:07	400	5.4	175.0	13.7	8.0	56.5	250.0	148.9	3.1
10/20/2010 10:08	400	5.4	175.0	13.7	8.0	56.4	250.0	148.9	3.1
10/20/2010 10:09	400	5.4	175.0	13.7	8.0	56.3	250.0	148.9	3.1
10/20/2010 10:10	400	5.4	175.0	13.7	8.0	56.3	250.0	148.9	3.1
10/20/2010 10:11	400	5.4	175.0	13.7	8.0	56.3	250.0	148.9	3.1
10/20/2010 10:12	400	5.4	175.0	13.7	8.0	56.3	250.0	148.9	3.1
10/20/2010 10:13	400	5.4	175.0	13.7	8.0	56.3	250.0	149.0	3.1
10/20/2010 10:14	400	5.4	175.0	13.7	8.0	56.5	250.0	149.0	3.1
10/20/2010 10:15	400	5.4	175.0	13.7	8.0	56.6	250.0	149.0	3.1
10/20/2010 10:16	400	5.4	175.0	13.7	8.0	56.5	250.0	149.0	3.1
10/20/2010 10:17	400	5.5	175.0	13.7	8.0	56.5	250.0	149.0	3.1
10/20/2010 10:18	400	5.5	175.0	13.7	8.0	56.5	250.0	149.0	3.1
10/20/2010 10:19	400	5.5	175.0	13.7	8.0	56.4	250.0	149.1	3.1
10/20/2010 10:20	400	5.5	175.0	13.7	8.0	56.4	250.0	149.1	3.1
10/20/2010 10:21	400	5.5	175.0	13.7	8.0	56.4	250.0	149.1	3.1
10/20/2010 10:22	400	5.5	175.0	13.7	8.0	56.5	250.0	149.1	3.1
10/20/2010 10:23	400	5.5	175.0	13.7	8.0	56.7	250.0	149.1	3.1
10/20/2010 10:24	400	5.5	175.0	13.7	8.0	56.7	250.0	149.1	3.1
10/20/2010 10:25	400	5.5	175.0	13.7	8.0	56.7	250.0	149.1	3.1
10/20/2010 10:26	400	5.5	175.0	13.7	8.0	56.6	250.0	149.2	3.1
10/20/2010 10:27	400	5.5	175.0	13.7	8.0	56.6	250.0	149,2	3.1
10/20/2010 10:28	400	5.5	175.0	13.7	8.0	56.6	250.0	149.2	3.2
10/20/2010 10:29	400	5.5	175.0	13.7	8.0	56.5	250.0	149.2	3.2
10/20/2010 10:30	400	5.5	175.0	13.7	8.0	56.6	250.0	149.2	3.2
10/20/2010 10:31	400	5.5	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:32	400	5.5	175.0	13.7	8.0	56.9	250.0	149.2	3.2
10/20/2010 10:33	400	5.6	175.0	13.7	8.0	56.9	250.0	149.2	3.2
10/20/2010 10:34	400	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:35	400	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2

Norlite Corporation - Cohoes, NY - MACT CPT 2010

October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32

Parameters	
) Operating	
(APCS)	
System	
Control	
ollution	
Air F	

ad No.	11-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	摄	Level	Feed Rate	Fluid Flow Rate	Drop
Units Date / Time	ļ۴	in. H ₂ O	mdb	шаб	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
10/20/2010 10:36	400	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:37	400	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:38	400	5.6	175.0	13.7	8.0	56.7	250.0	149.2	3.2
10/20/2010 10:39	400	5.6	175.0	13.7	8.0	56.9	250.0	149.2	3.2
10/20/2010 10:40	400	5.6	175.0	13.7	8.0	56.9	250.0	149.2	3.2
10/20/2010 10:41	400	5.6	175.0	13.7	8.0	56.9	250.0	149.2	3.2
10/20/2010 10:42	401	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:43	401	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:44	401	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:45	400	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:46	400	5.6	175.0	13.7	8.0	56.7	250.0	149.3	3.2
10/20/2010 10:47	400	5.6	175.0	13.7	8.0	56.8	250.0	149.3	3.2
10/20/2010 10:48	400	5.6	175.0	13.7	8.0	56.9	250.0	149.3	3.2
10/20/2010 10:49	400	5.6	175.0	13.7	8.0	56.8	250.0	149.3	3.2
10/20/2010 10:50	400	5.6	175.0	13.7	8.0	56.8	250.0	149.3	3.2
10/20/2010 10:51	400	5.6	175.0	13.7	8.0	56.8	250.0	149.3	3.2
10/20/2010 10:52	401	5.6	175.0	13.7	8.0	56.8	250.0	149.3	3.2
10/20/2010 10:53	401	5.6	175.0	13.7	8.0	56.7	250.0	149.3	3.2
10/20/2010 10:54	401	5.6	174.0	13.7	8.0	56.7	250.0	149.3	3.2
10/20/2010 10:55	401	5.6	174.0	13.7	8.0	56.7	250.0	149.3	3.2
10/20/2010 10:56	401	5.6	174.0	13.7	8.0	56.8	250.0	149.3	3.2
10/20/2010 10:57	401	5.6	174.0	13.7	8.0	56.8	250.0	149.4	3.2
10/20/2010 10:58	401	5.6	174.0	13.7	8.0	56.8	250.0	149.4	3.2
10/20/2010 10:59	401	5.6	174.0	13.7	8.0	56.8	250.0	149.4	3.2
10/20/2010 11:00	401	5.6	174.0	13.7	8.0	56.7	250.0	149.4	3.2
10/20/2010 11:01	401	5.6	174.0	13.7	8.0	56.7	250.0	149.4	3.2
10/20/2010 11:02	401	5.6	174.0	13.7	8.0	56.7	250.0	149.4	3.2
10/20/2010 11:03	400	5.6	174.0	13.7	8.0	56.7	250.0	149.4	3.2
10/20/2010 11:04	400	5.6	174.0	13.7	8.0	56.8	250.0	149.4	3.2
10/20/2010 11:05	400	5.6	174.0	13.7	8.0	56.8	250.0	149.4	3.2
10/20/2010 11:06	400	5.6	174.0	13.7	8.0	56.7	250.0	149.4	3.2
10/20/2010 11:07	400	5.6	174.0	13.7	8.0	56.7	250.0	149.4	3.2
10/20/2010 11:08	400	5.6	174.0	13.7	8.0	56.7	250.0	149.4	3.2

Norlite Corporation - Cohoes, NY - MACT CPT 2010

Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	돐	Level	Feed Rate	Fluid Flow Rate	Drop
Units	ቱ የ	in. H ₂ O	mdg	mdb	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / IIIIe									
10/20/2010 11:09	401	5.6	174.0	13.7	8.0	56.6	250.0	149,4	3.2
10/20/2010 11:10	401	5.6	174.0	13.7	8.0	56.6	250.0	149.4	3.2
10/20/2010 11:11	401	5.6	174.0	13.7	8.0	56.5	250.0	149.4	3.2
10/20/2010 11:12	401	5.7	174.0	13.7	8.0	56.6	250.0	149.5	3.2
10/20/2010 11:13	401	2.7	174.0	13.7	8.0	56.6	250.0	149.5	3.2
10/20/2010 11:14	400	5.7	174.0	13.7	8.0	56.6	250.0	149.5	3.2
10/20/2010 11:15	400	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.2
10/20/2010 11:16	400	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.2
10/20/2010 11:17	400	5.7	174.0	13.7	8.0	56.4	250.0	149.5	3.2
10/20/2010 11:18	400	5.7	174.0	13.7	8.0	56.4	250.0	149.5	3.2
10/20/2010 11:19	400	5.7	174.0	13.7	8.0	56.4	250.0	149.5	3.2
10/20/2010 11:20	401	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.2
10/20/2010 11:21	401	5.7	174.0	13.7	8.0	56.7	250.0	149.5	3.2
10/20/2010 11:22	401	5.7	174.0	13.7	8.0	56.7	250.0	149.5	3.2
10/20/2010 11:23	401	5.7	174.0	13.7	8.0	56.6	250.0	149.5	3.2
10/20/2010 11:24	401	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.2
10/20/2010 11:25	400	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.2
10/20/2010 11:26	400	5.7	174.0	13.7	8.0	56.5	250.0	149,5	3.2
10/20/2010 11:27	400	5.7	174.0	13.7	8.0	56.4	250.0	149.5	3.2
10/20/2010 11:28	400	5.7	174.0	13.7	8.0	56.4	250.0	149.5	3.2
10/20/2010 11:29	400	5.7	174.0	13.7	8.0	56.6	250.0	149.5	3.2
10/20/2010 11:30	400	5.7	174.0	13.7	8.0	56.6	250.0	149.5	3.2
10/20/2010 11:31	400	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.3
10/20/2010 11:32	400	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.3
10/20/2010 11:33	400	5.7	174.0	13.7	8.0	56.4	250.0	149.5	3.3
10/20/2010 11:34	400	5.7	174.0	13.7	8.0	56.4	250.0	149.5	3.3
10/20/2010 11:35	400	5.7	174.0	13.7	8.0	56.3	250.0	149.5	3.3
10/20/2010 11:36	400	5.7	174.0	13.7	8.0	56.2	250.0	149.5	3.3
10/20/2010 11:37	400	5.7	174.0	13.7	8.0	56.4	250.0	149.6	3.3
10/20/2010 11:38	400	5.7	174.0	13.7	8.0	56.5	250.0	149.6	3.3
10/20/2010 11:39	400	5.7	174.0	13.7	8.0	56.4	250.0	149.6	3.3
10/20/2010 11:40	400	5.7	174.0	13.7	8.0	56.3	250.0	149.6	3.2
10/20/2010 11:41	400	5.7	174.0	13.7	8.0	56.3	250.0	149.6	3.2

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Norlite Corporation - Cohoes, NY - MACT CPT 2010

October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32

Air Pollution Control System (APCS) Operating Parameters

		∃		ol oyate) open	anon comina aystem (ar co) operating i arameters	- 11	
Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	Hd	Level	Feed Rate	Fluid Flow Rate	Drop
Units Date / Time	ĥ.	in. H ₂ O	mdb	md6	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
10/20/2010 11:42	400	5.7	174.0	13.7	8.0	56.2	250.0	149.6	3.2
10/20/2010 11:43	400	5.7	174.0	13.6	8.0	56.1	250.0	149.6	3.2
10/20/2010 11:44	400	5.7	174.0	13.5	8.0	56.1	250.0	149.6	3.2
10/20/2010 11:45	400	5.7	174.0	13.4	8.0	56.3	250.0	149.6	3.2
10/20/2010 11:46	400	5.7	174.0	13.3	8.0	56.5	250.0	149.6	3.2
10/20/2010 11:47	400	5.7	174.0	13.3	8.0	56.5	250.0	149.6	3.2
10/20/2010 11:48	400	5.7	174.0	13.2	8.0	56.5	250.0	149.6	3.2
10/20/2010 11:49	400	5.7	174.0	13.1	8.0	56.5	250.0	149.7	3.2
10/20/2010 11:50	400	5.7	174.0	13.0	8.0	56.5	250.0	149.7	3.2
10/20/2010 11:51	400	5.7	174.0	12.9	8.0	56.5	250.0	149.7	3.2
10/20/2010 11:52	400	5.7	174.0	12.8	8.0	56.5	250.0	149.7	3.2
10/20/2010 11:53	400	5.7	174.0	12.8	8.0	56.5	250.0	149.7	3.2
10/20/2010 11:54	399	5.7	174.0	12.7	8.0	56.5	250.0	149.7	3.2
10/20/2010 11:55	399	5.7	174.0	12.6	8.0	56.6	250.0	149.7	3.2
10/20/2010 11:56	399	5.7	174.0	12.5	8.0	56.4	250.0	149.7	3.2
10/20/2010 11:57	399	5.7	174.0	12.4	8.0	56.3	250.0	149.7	3.2
10/20/2010 11:58	399	5.7	174.0	12.3	8.0	56.2	250.0	149.7	3.2
10/20/2010 11:59	399	5,7	174.0	12.2	8.0	56.3	250.0	149.7	3.2
10/20/2010 12:00	399	5.7	174.0	12.2	8.0	56.4	250.0	149.7	3.2
10/20/2010 12:01	399	5.7	174.0	12.1	8.0	56.5	250.0	149.7	3.2
10/20/2010 12:02	399	5.7	174.0	12.1	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:03	399	5.7	173.0	12.1	8.0	56.7	250.0	149.7	3.2
10/20/2010 12:04	399	5.7	173.0	12.1	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:05	399	5.7	173.0	12.1	8.0	56.5	250.0	149.7	3.2
10/20/2010 12:06	399	5.7	173.0	12.1	8.0	56.4	250.0	149.7	3.2
10/20/2010 12:07	400	5.7	173.0	12.1	8.0	56.4	250.0	149.7	3.2
10/20/2010 12:08	400	5.7	173.0	12.1	8.0	56.5	250.0	149.7	3.2
10/20/2010 12:09	400	5.7	173.0	12.2	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:10	400	5.7	173.0	12.2	8.0	56.7	250.0	149.7	3.2
10/20/2010 12:11	400	5.7	173.0	12.2	8.0	56.8	250.0	149.7	3,2
10/20/2010 12:12	400	5.7	173.0	12.2	8.0	56.8	250.0	149.7	3.2
10/20/2010 12:13	400	5.7	173.0	12.2	8.0	56.7	250.0	149.7	3.2
10/20/2010 12:14	400	5.7	173.0	12.2	8.0	56.5	250.0	149.7	3.2

Norlite Corporation - Cohoes, NY - MACT CPT 2010

				270.0	\ 	2 2 2 2	All I Suddoll Solido System (Al SS) Spelating I alameters		
Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	돐	Level	Feed Rate	Fluid Flow Rate	Drop
Units	ĥ	in. H ₂ O	mdb	mdg	pH units	% Ht	lb/hr	scfm	in. H ₂ O
Date / Time									
10/20/2010 12:15	400	5.7	173.0	12.2	8.0	56.5	250.0	149.7	3.2
10/20/2010 12:16	400	5.6	173.0	12.3	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:17	400	5.6	173.0	12.3	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:18	400	5.6	173.0	12.3	8.0	56.7	250.0	149.7	3.2
10/20/2010 12:19	400	5.6	173.0	12.3	8.0	56.8	250.0	149.7	3.2
10/20/2010 12:20	400	5.6	173.0	12.3	8.0	56.7	250.0	149.7	3.2
10/20/2010 12:21	400	5.6	173.0	12.3	8.0	56.5	250.0	149.7	3.2
10/20/2010 12:22	399	5.6	173.0	12.3	8.0	56.4	250.0	149.7	3.2
10/20/2010 12:23	399	5.6	173.0	12.3	8.0	56.5	250.0	149.7	3.2
10/20/2010 12:24	399	5.6	173.0	12.4	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:25	400	5.6	173.0	12.4	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:26	400	5.6	173.0	12.4	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:27	400	5.7	173.0	12.4	8.0	56.7	250.0	149.7	3.2
10/20/2010 12:28	400	5.7	173.0	12.4	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:29	400	5.7	173.0	12.4	8.0	56.5	250.0	149.7	3.2
10/20/2010 12:30	400	5.7	173.0	12.4	8.0	56.5	250.0	149.8	3.2
10/20/2010 12:31	400	5.7	173.0	12.4	8.0	56.5	250.0	149.8	3.2
10/20/2010 12:32	400	5.7	173.0	12.4	8.0	56.5	250.0	149.8	3.2
AVERAGE	400	5.6	174.3	13,4	8.0	56.5	250.0	149.3	3.2
MINIMUM	399	5.3	173.0	12.1	8.0	56.1	250.0	148.7	3.0
MAXIMUM	401	5.7	175.0	13.7	8.0	56.9	250.0	149.8	3.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02

rating Parameters
APCS) Operating
(APCS)
System
Control
ution
Air Poll

	_					_	_	_	_						_	_	_									_					_						_	_
DPT-4402	Ducon	Pressure	Drop	in. H ₂ O		3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3,4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
VF-101 / 102 / 103		Lime Carrier	Fluid Flow Rate	scfm		149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149,9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9	149.9
AC-101 / 102 / 103		Lime	Feed Rate	lb/hr		250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0
LT-102	Scrubber	Tank	Level	% Ht.		56.4	56.4	56.3	56.3	56.3	56.2	56.4	56.4	56.4	56.4	56.3	56.3	56.3	56.2	56.3	56.4	56.4	56.4	56.4	56.4	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.3	56.4	56.4	56.4	56.4
2509 A/B	Scrubber	Liquid	玉	pH units		8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
FT-2508	Scrubber	Blowdown	Rate	mdg		14.3	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.1	14.1	14.1	14.1	14.1
FT-2507 A/B	Scrubber	Recirculation	Flow Rate	mdb		173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0
DPT-2303	Venturi	Pressure	Drop	in. H ₂ O		5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5,9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
TT-2404	Baghouse	Inlet	Temperature	۴		400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	399	399	399	399	399	399	399	399	399	399
Tag No.		Parameter		Units	Date / Time	10/20/2010 13:00	10/20/2010 13:01	10/20/2010 13:02	10/20/2010 13:03	10/20/2010 13:04	10/20/2010 13:05	10/20/2010 13:06	10/20/2010 13:07	10/20/2010 13:08	10/20/2010 13:09	10/20/2010 13:10	10/20/2010 13:11	10/20/2010 13:12	10/20/2010 13:13	10/20/2010 13:14	10/20/2010 13:15	10/20/2010 13:16	10/20/2010 13:17	10/20/2010 13:18	10/20/2010 13:19	10/20/2010 13:20	10/20/2010 13:21	10/20/2010 13:22	10/20/2010 13:23	10/20/2010 13:24	10/20/2010 13:25	10/20/2010 13:26	10/20/2010 13:27	10/20/2010 13:28	10/20/2010 13:29	10/20/2010 13:30	10/20/2010 13:31	10/20/2010 13:32
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October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

To 2. 1.12	1000	2000 TOO	1	0030 11	(30 100 1400	. 11	1
- ag 140.	1-2404	DF1-2303	E1-2007 A/B	P1-2008	SOUS AVE		AC-101 / 102 / 103	VF-101 / 102 / 103	UP1-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	돐	Level	Feed Rate	Fluid Flow Rate	Drop
Units	Ļ	in. H ₂ O	шdб	dbm	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time									
10/20/2010 13:33	399	5.9	173.0	14.1	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:34	399	5.9	173.0	14.0	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:35	399	5.9	173.0	14.0	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:36	399	5.9	173.0	14.0	8.0	56.4	250.0	149.9	3,4
10/20/2010 13:37	399	5.9	173.0	14.0	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:38	399	5.9	173.0	14.0	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:39	399	5.9	173.0	14.0	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:40	399	5.9	173.0	13.9	8.0	56.5	250.0	150.0	3.4
10/20/2010 13:41	399	5.9	173.0	13.9	8.0	56.5	250.0	150.0	3.4
10/20/2010 13:42	399	5.9	173.0	13.9	8.0	56.5	250.0	150.0	3.4
10/20/2010 13:43	399	5.9	173.0	13.9	8.0	56.5	250.0	150.0	3.4
10/20/2010 13:44	399	5.9	173.0	13.9	8.0	56.4	250.0	150.0	3,4
10/20/2010 13:45	399	5.9	173.0	13.9	8.0	56.3	250.0	150.0	3.4
10/20/2010 13:46	399	5.0	173.0	13.8	8.0	56.3	250.0	150.0	3.3
10/20/2010 13:47	399	5.9	173.0	13.8	8.0	56.3	250.0	150.0	3.3
10/20/2010 13:48	399	5.9	173.0	13.8	8.0	56.4	250.0	150.0	3.3
10/20/2010 13:49	399	5.9	173.0	13.8	8.0	56.5	250.0	149.9	3.3
10/20/2010 13:50	399	5.9	173.0	13.8	8.0	56.5	250.0	149.9	3.3
10/20/2010 13:51	399	5.9	173.0	13.8	8.0	56.5	250.0	150.0	3.3
10/20/2010 13:52	399	5.9	173.0	13.7	8.0	56.4	250.0	150.0	3.3
10/20/2010 13:53	399	5.9	173.0	13.7	8.0	56.2	250.0	150.0	3.3
10/20/2010 13:54	399	5.9	173.0	13.7	8.0	56.3	250.0	150.0	3.3
10/20/2010 13:55	399	5.9	173.0	13.7	8.0	56.3	250.0	150.0	3.3
10/20/2010 13:56	399	5.9	173.0	13.7	8.0	56.3	250.0	150.0	3.3
10/20/2010 13:57	399	5.9	173.0	13.7	8.0	56.4	250.0	150.0	3.3
10/20/2010 13:58	399	5.9	173.0	13.7	8.0	56.5	250.0	150.0	3.3
10/20/2010 13:59	399	5.9	173.0	13.6	8.0	56.4	250.0	150.0	3.3
10/20/2010 14:00	399	5.9	173.0	13.6	8.0	56.3	250.0	150.0	3.3
10/20/2010 14:01	399	5.9	173.0	13.6	8.0	56.3	250.0	150.0	3.3
10/20/2010 14:02	399	5.9	173.0	13.6	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:03	399	5.9	173.0	13.6	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:04	399	5.9	173.0	13.6	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:05	399	5.9	173.0	13.5	8.0	56.5	250.0	149.9	3.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010

					 	ر م المد. ت		- 11	
Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	된	Level	Feed Rate	Fluid Flow Rate	Drop
Units Date / Time	ř.	in. H ₂ 0	mdb	mdg	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
10/20/2010 14:08	300	0 4	173.0	12.5	Oα	202	250.0	140.0	000
10/20/2010 14:02	390	5.0	173.0	, c	2 0	20.00	0.000	0.00	3.00
10/20/2010 14:07	033	0.0	0.671	0.01	0.0	20.0	0.062	20.00	C.C.
10/20/2010 14:08	399	5.9	173.0	13.5	8.0	56.2	250.0	149.9	3.3
10/20/2010 14:09	399	5.9	173.0	13.5	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:10	399	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:11	399	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:12	399	5.9	173.0	13.4	8.0	. 56.6	250.0	149.9	3.3
10/20/2010 14:13	400	5.9	173.0	13.4	8.0	56.6	250.0	150.0	3.3
10/20/2010 14:14	400	5.9	173.0	13.4	8.0	56.5	250.0	150.0	3.3
10/20/2010 14:15	400	5.9	173.0	13.4	8.0	56.4	250.0	150.0	3.3
10/20/2010 14:16	400	5.9	173.0	13.4	8.0	56.2	250.0	150.0	3.3
10/20/2010 14:17	400	5.9	173.0	13.4	8.0	56.3	250.0	150.0	3.3
10/20/2010 14:18	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:19	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:20	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:21	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:22	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:23	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:24	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:25	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:26	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:27	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:28	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:29	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:30	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:31	400	5.9	173.0	13.4	8.0	56.1	250.0	149.9	8,3
10/20/2010 14:32	400	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.3
10/20/2010 14:33	400	5.9	173.0	13,4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:34	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:35	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:36	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:37	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:38	400	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.3

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Norlite Corporation - Cohoes, NY - MACT CPT 2010

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Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	玉	Level	Feed Rate	Fluid Flow Rate	Drop
Units Date / Time	፟ኍ	in. H ₂ O	mdg	mdb	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
10/20/2010 14:39	400	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.3
10/20/2010 14:40	400	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.3
10/20/2010 14:41	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:42	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:43	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:44	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:45	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:46	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:47	400	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.3
10/20/2010 14:48	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 14:49	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 14:50	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 14:51	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 14:52	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.4
10/20/2010 14:53	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.4
10/20/2010 14:54	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 14:55	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 14:56	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 14:57	400	5.9	173.0	13.4	8.0	56.4	250.0	. 149.9	3.4
10/20/2010 14:58	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 14:59	400	5.9	173.0	13.4	8.0	56.5	250,0	149.9	3.4
10/20/2010 15:00	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.4
10/20/2010 15:01	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 15:02	400	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.4
10/20/2010 15:03	400	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.4
10/20/2010 15:04	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3,4
10/20/2010 15:05	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:06	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 15:07	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 15:08	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 15:09	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:10	401	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3,4
10/20/2010 15:11	401	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.4

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October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

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ag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	핍	Level	Feed Rate	Fluid Flow Rate	Drop
Units Date / Time	<u>ц</u>	in. H ₂ 0	шdб	mdg	pH units	% Ht.	lb/hr	scím	in. H ₂ O
10/20/2010 15:12	401	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:13	401	5.9	173.0	13,4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:14	401	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3,4
10/20/2010 15:15	401	5.9	173.0	13,4	8.0	56.4	250.0	149.9	3.4
10/20/2010 15:16	401	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.4
10/20/2010 15:17	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:18	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:19	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:20	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3,4
10/20/2010 15:21	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 15:22	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3,4
10/20/2010 15:23	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 15:24	401	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 15:25	401	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 15:26	401	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 15:27	401	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 15:28	401	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 15:29	401	5.9	173.0	13.4	8.0	56.6	250.0	149.9	3.3
10/20/2010 15:30	401	5.9	173.0	13.4	8.0	56.6	250.0	149.9	3.3
10/20/2010 15:31	401	5.9	173.0	13.4	8.0	56.7	250.0	149.9	3.3
10/20/2010 15:32	401	5.9	173.0	13,4	8.0	56.5	250.0	149.9	3.3
10/20/2010 15:33	401	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 15:34	401	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 15:35	401	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 15:36	400	5.9	173.0	13.4	8.0	56.6	250.0	149.9	3.3
10/20/2010 15:37	400	5.9	173.0	13.4	8.0	56.6	250.0	149.9	3.3
10/20/2010 15:38	400	5.9	173.0	13.4	8.0	56.7	250.0	149.9	3.3
10/20/2010 15:39	400	5.8	173.0	13.4	8.0	56.7	250.0	149.9	3.3
10/20/2010 15:40	400	5.8	173.0	13.4	8.0	56.6	250.0	149.9	3.3
10/20/2010 15:41	400	5.8	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 15:42	400	5.8	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 15:43	400	5.8	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 15:44	400	5.8	173.0	13.4	8.0	56.6	250.0	149.9	3.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010 October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02 Air Pollution Control System (APCS) Operating Parameters

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Tag No.	T-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	폽	Level	Feed Rate	Fluid Flow Rate	Drop
Units	ዙ	in. H ₂ O	md6	mdb	pH units	%Ht.	lb/hr	scfm	in. H ₂ O
Date / Time									
10/20/2010 15:45	400	5.8	173.0	13.4	8.0	56.7	250.0	149.9	3.3
10/20/2010 15:46	400	5.8	173.0	13.4	8.0	56.8	250.0	149.9	3.3
10/20/2010 15:47	400	5.8	173.0	13.4	8.0	56.8	250.0	149.8	3.3
10/20/2010 15:48	400	5.8	173.0	13.4	8.0	56.7	250.0	149.8	3.3
10/20/2010 15:49	400	5.8	173.0	13.4	8.0	56.5	250.0	149.8	3.3
10/20/2010 15:50	400	5.8	173.0	13.4	8.0	56.5	250.0	149.8	3.3
10/20/2010 15:51	400	5.8	173.0	13.4	8.0	56.6	250.0	149.8	3.3
10/20/2010 15:52	400	5.8	173.0	13.4	8.0	26.7	250.0	149.8	3.3
10/20/2010 15:53	400	5.8	173.0	13.4	8.0	56.8	250.0	149.8	3.3
10/20/2010 15:54	400	5.8	173.0	13.4	8.0	56.9	250.0	149.8	3.3
10/20/2010 15:55	400	5.8	173.0	13.4	8.0	56.8	250.0	149.8	3.3
10/20/2010 15:56	400	5.8	173.0	13.4	8.0	56.8	250.0	149.8	3.3
10/20/2010 15:57	400	5.8	173.0	13.4	8.0	56.6	250.0	149.8	3.3
10/20/2010 15:58	400	5.8	173.0	13.4	8.0	56.6	250.0	149.8	3.3
10/20/2010 15:59	400	5.8	173.0	13.4	8.0	56.6	250.0		3.3
10/20/2010 16:00	400	5.8	173.0	13.4	8.0	26.7	250.0	149.8	3.3
10/20/2010 16:01	400	5.8	173.0	13.4	8.0	56.8	250.0	149.8	3.3
10/20/2010 16:02	400	5.8	173.0	13.3	8.0	56.9	250.0	149.8	3.3
AVERAGE	400	5.9	173.0	13.6	8.0	56.4	250.0	149.9	3.3
MINIMOM	399	5.8	173.0	13.3	8.0	56.1	250.0	149.8	3.3
MAXIMUM	401	5.9	173.0	14.4	8.0	56.9	250.0	150.0	3.4

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Norlite Corporation - Cohoes, NY - MACT CPT 2010

ag No.		COCC FOO			0/4 0000	1	2011001100	2017 2007 7 400	CO. 4
	+0+7-11	UF 1-2303	an 1007-1-		2009 70	701-105	501 / 201 / 101-04	VE-101 / 107 / 109	7-1-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	풘	Level	Feed Rate	Fluid Flow Rate	Drop
Units	ŗ.	in. H ₂ O	шdб	шdб	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time									
10/21/2010 09:04	400	2.0	173.0	13.2	8.0	56.4	250.0	145.5	2.9
10/21/2010 09:05	400	5.0	173.0	13.2	8.0	56.3	250.0	145.4	2.9
10/21/2010 09:06	400	5.0	173.0	13.2	8.0	56.3	250.0	145.4	2.9
10/21/2010 09:07	400	5.0	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:08	400	5.0	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:09	. 400	5.0	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:10	400	5.0	173.0	13.2	8.0	56.5	250.0	145.5	2.9
10/21/2010 09:11	400	5.0	173.0	13.2	8.0	56.6	250.0	145.5	2.9
10/21/2010 09:12	400	5.0	173.0	13.2	8.0	56.5	250.0	145.5	2.9
10/21/2010 09:13	400	5.0	173.0	13.2	8.0	56.4	250.0	145.5	2.9
10/21/2010 09:14	400	5.0	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:15	400	5.0	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:16	400	5.0	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:17	400	5.0	173.0	13.2	8.0	56.1	250.0	145.5	2,9
10/21/2010 09:18	400	5.0	173.0	13.2	8.0	56.1	250.0	145.5	2.9
10/21/2010 09:19	400	5.0	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:20	400	5.0	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:21	400	5.0	173.0	13.2	8.0	56.4	250.0	145.5	2.9
10/21/2010 09:22	400	5.0	173.0	13.2	8.0	56.4	250.0	145.5	2.9
10/21/2010 09:23	400	5.0	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:24	400	5.0	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:25	400	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
10/21/2010 09:26	400	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
10/21/2010 09:27	400	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
10/21/2010 09:28	400	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
10/21/2010 09:29	400	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:30	400	5.1	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:31	400	5.1	173.0	13.2	8.0	56.4	250.0	145.5	2.9
10/21/2010 09:32	400	5.1	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:33	400	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:34	400	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
10/21/2010 09:35	400	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
10/21/2010 09:36	400	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9

Norlite Corporation - Cohoes, NY - MACT CPT 2010

r Inlet Pressure Scrubber Inlet Pressure Read related in Hong Blowdown Liquid Tank Line	Tag No	TT-2404	DPT-2303	FT-2507 A/R	FT-2508	2509 A/R	1T-102	AC-101 / 102 / 103	VE-101 / 102 / 103	DPT-4402
Temperature Pressure Rediculation Rediculat		Bachouse	Venturi	Scribber	Scribber	Scribber	Scribber			1000 I
Timple Pressure Reduciation Flowdown Liquid Physical Reduciation Flowdown Liquid Physical Reduciation Flowdown Liquid Physical Reduciation í	asnouhed	Aerilar Verilar	ianon in c	Sciunne	io de la compet	Sciuppe	-			
Temperature Drop Flow Mate Rate pH Level Feed Rate 400 5.1 173.0 13.2 8.0 56.1 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 </td <td>Parameter</td> <td>Inlet</td> <td>Pressure</td> <td>Kecirculation</td> <td>Blowdown</td> <td>Lidnid</td> <td>ank</td> <td>Lime</td> <td>Lime Carrier</td> <td>Pressure</td>	Parameter	Inlet	Pressure	Kecirculation	Blowdown	Lidnid	ank	Lime	Lime Carrier	Pressure
*F in, H ₂ O gpm pH units %H, H ₂ lb/hr 400 5.1 173.0 13.2 8.0 66.1 250.0 400 5.1 173.0 13.2 8.0 66.2 250.0 400 5.1 173.0 13.2 8.0 66.3 250.0 400 6.1 173.0 13.2 8.0 66.3 250.0 400 6.1 173.0 13.2 8.0 66.3 250.0 400 6.1 173.0 13.2 8.0 66.3 250.0 400 6.1 173.0 13.2 8.0 66.3 250.0 400 6.1 173.0 13.2 8.0 66.1 250.0 400 6.1 173.0 13.2 8.0 66.9 250.0 400 6.1 173.0 13.2 8.0 56.9 250.0 400 6.1 173.0 13.2 8.0 56.9 250.0		Temperature	Drop	Flow Rate	Rate	핊	Level	Feed Rate	Fluid Flow Rate	Drop
400 5.1 1730 13.2 8.0 56.1 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 25	Onits	ŗ.	in. H ₂ O	mdb	mdg	pH units	% H#	lb/hr	scfm	in. H ₂ O
400 5,1 173.0 13.2 8.0 56.1 250.0 400 5,1 173.0 13.2 8.0 56.2 250.0 400 5,1 173.0 13.2 8.0 56.4 250.0 400 5,1 173.0 13.2 8.0 56.4 250.0 400 5,1 173.0 13.2 8.0 56.4 250.0 400 5,1 173.0 13.2 8.0 56.0 250.0 400 5,1 173.0 13.2 8.0 56.0 250.0 400 5,1 173.0 13.2 8.0 56.0 250.0 400 5,1 173.0 13.2 8.0 56.0 250.0 400 5,1 173.0 13.2 8.0 56.0 250.0 400 5,1 173.0 13.2 8.0 56.0 250.0 400 5,1 173.0 13.2 8.0 56.0 2	Date / Time									
400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.4 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.9 250.0 400 5.1 173.0 13.2 8.0 56.9 250.0 400 5.1 173.0 13.2 8.0 56.9 250.0 400 5.1 173.0 13.2 8.0 56.9 250.0 400 5.1 173.0 13.2 8.0 56.9 250.0 400 5.1 173.0 13.2 8.0 56.9 2	10/21/2010 09:37	400	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
400 5,1 173.0 13.2 8.0 56.3 250.0 400 5,1 173.0 13.2 8.0 56.4 250.0 400 5,1 173.0 13.2 8.0 56.3 250.0 400 5,1 173.0 13.2 8.0 56.2 250.0 400 5,1 173.0 13.2 8.0 56.2 250.0 400 5,1 173.0 13.2 8.0 56.0 250.0 400 5,1 173.0 13.2 8.0 56.0 250.0 400 5,1 173.0 13.2 8.0 56.0 250.0 400 5,1 173.0 13.2 8.0 56.0 250.0 400 5,1 173.0 13.2 8.0 56.0 250.0 400 5,1 173.0 13.2 8.0 56.0 250.0 400 5,1 173.0 13.2 8.0 56.0 2	10/21/2010 09:38	400	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
400 6.1 173.0 13.2 8.0 56.4 250.0 400 6.1 173.0 13.2 8.0 56.4 250.0 400 6.1 173.0 13.2 8.0 56.2 250.0 400 6.1 173.0 13.2 8.0 56.0 250.0 400 6.1 173.0 13.2 8.0 56.0 250.0 400 6.1 173.0 13.2 8.0 56.0 250.0 400 6.1 173.0 13.2 8.0 56.0 250.0 400 6.1 173.0 13.2 8.0 56.0 250.0 400 6.1 173.0 13.2 8.0 56.0 250.0 400 6.1 173.0 13.2 8.0 56.2 250.0 400 6.1 173.0 13.2 8.0 56.0 250.0 389 6.1 173.0 13.2 8.0 56.0 2	10/21/2010 09:39	400	5.1	173.0	13.2	8.0	56.3	250.0	145.5	2.9
400 6.1 173.0 13.2 8.0 56.4 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.1 250.0 400 5.1 173.0 13.2 8.0 56.1 250.0 400 5.1 173.0 13.2 8.0 56.1 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 389 5.1 173.0 13.2 8.0 56.0 2	10/21/2010 09:40	400	5.1	173.0	13.2	8.0	56.4	250.0	145.5	2.9
400 51 173.0 13.2 8.0 56.3 250.0 400 51 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.1 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.1 250	10/21/2010 09:41	400	5.1	173.0	13.2	8.0	56.4	250.0	145.5	2.9
400 6.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.1 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.1 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.2 2	10/21/2010 09:42	400	5.1	173.0	13.2	8.0	56.3	250.0	145.5	2.9
400 5.1 173.0 13.2 8.0 56.1 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.2 250.0 399 5.1 173.0 13.2 8.0 56.3 2	10/21/2010 09:43	400	5.1	173.0	13.2	8.0	56.2	250.0	145,5	2.9
400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 55.9 250.0 400 5.1 173.0 13.2 8.0 56.9 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.0 2	10/21/2010 09:44	400	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
400 5.1 173.0 13.2 8.0 55.9 250.0 400 5.1 173.0 13.2 8.0 55.9 250.0 400 5.1 173.0 13.2 8.0 56.1 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 400 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 2	10/21/2010 09:45	400	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
400 5.1 173.0 13.2 8.0 56.9 250.0 400 5.1 173.0 13.2 8.0 56.1 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 2	10/21/2010 09:46	400	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
400 5.1 173.0 13.2 8.0 56.1 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 2	10/21/2010 09:47	400	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.1 250.0 400 5.1 173.0 13.2 8.0 56.1 250.0 389 5.1 173.0 13.2 8.0 56.0 250.0 389 5.1 173.0 13.2 8.0 56.0 250.0 389 5.1 173.0 13.2 8.0 56.0 250.0 389 5.1 173.0 13.2 8.0 56.2 250.0 389 5.1 173.0 13.2 8.0 56.3 250.0 389 5.1 173.0 13.2 8.0 56.0 250.0 389 5.1 173.0 13.2 8.0 56.0 250.0 389 5.1 173.0 13.2 8.0 56.0 2	10/21/2010 09:48	400	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
400 5.1 173.0 13.2 8.0 56.3 250.0 400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 2	10/21/2010 09:49	400	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
400 5.1 173.0 13.2 8.0 56.2 250.0 400 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 55.9 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.2 250.0 399 5.1 173.0 13.2 8.0 56.2 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 2	10/21/2010 09:50	400	5.1	173.0	13.2	8.0	56.3	250.0	145.5	2.9
400 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 55.9 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 2	10/21/2010 09:51	400	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 56.0 250.0 399 6.1 173.0 13.2 8.0 55.9 250.0 399 5.1 173.0 13.2 8.0 56.9 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.2 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 2	10/21/2010 09:52	400	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
399 6.1 173.0 13.2 8.0 55.9 250.0 399 5.1 173.0 13.2 8.0 56.9 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 55.9 250.0 399 5.1 173.0 13.2 8.0 55.9 2	10/21/2010 09:53	399	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 56.9 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.2 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.9 250.0 399 5.1 173.0 13.2 8.0 56.9 250.0 399 5.1 173.0 13.2 8.0 56.9 250.0 399 5.1 173.0 13.2 8.0 56.9 2	10/21/2010 09:54	399	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 55.9 250.0 399 5.1 173.0 13.2 8.0 55.9 250.0 399 5.1 173.0 13.2 8.0 55.9 250.0 399 5.1 173.0 13.2 8.0 56.9 250.0 399 5.1 173.0 13.2 8.0 56.0 2	10/21/2010 09:55	399	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.2 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.2 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.9 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 2	10/21/2010 09:56	399	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 56.2 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.9 250.0 399 5.1 173.0 13.2 8.0 56.9 250.0 399 5.1 173.0 13.2 8.0 56.9 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 2	10/21/2010 09:57	399	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0	10/21/2010 09:58	399	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 56.3 250.0 399 5.1 173.0 13.2 8.0 56.2 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 55.9 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0	10/21/2010 09:59	399	5.1	173.0	13.2	8.0	56.3	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 56.2 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 55.9 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0	10/21/2010 10:00	399	5.1	173.0	13.2	8.0	56.3	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.9 250.0 399 5.1 173.0 13.2 8.0 56.9 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0	10/21/2010 10:01	399	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 55.9 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0	10/21/2010 10:02	399	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 55.9 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0	10/21/2010 10:03	399	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 55.9 250.0 399 5.1 173.0 13.2 8.0 56.9 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0	10/21/2010 10:04	399	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 55.9 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0	10/21/2010 10:05	399	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 56.0 250.0 399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0	10/21/2010 10:06	399	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 56.1 250.0 399 5.1 173.0 13.2 8.0 56.0 250.0	10/21/2010 10:07	399	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
399 5.1 173.0 13.2 8.0 56.0	10/21/2010 10:08	399	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
	10/21/2010 10:09	399	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9

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Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	핂	Level	Feed Rate	Fluid Flow Rate	Drop
Units	Ļ	in. H ₂ 0	mdb	mdb	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Join 19040 10:40	oce	7	472.0	40.5	c	0 11	0.030	7 460	c
10/21/2010 10:10	686		173.0	13.2	0.0	D 1	250.0	143.3	8.7 6.0
10/21/2010 10:11	388	5.1	1/3.0	13.2	8.0	92.9	250.0	145.5	2.9
10/21/2010 10:12	399	5.1	173.0	13.2	8.0	55.8	250.0	145.5	2.9
10/21/2010 10:13	399	5.1	173.0	13.2	8.0	55.8	250.0	145.5	2.9
10/21/2010 10:14	399	5.1	173.0	13.2	8.0	55.7	250.0	145.5	2.9
10/21/2010 10:15	399	5.1	173.0	13.2	8.0	55.7	250.0	145.5	2.9
10/21/2010 10:16	399	5.1	173.0	13.1	8.0	55.8	250.0	145.5	2.9
10/21/2010 10:17	399	5.0	173.0	13.1	8.0	56.0	250.0	145.5	2.9
10/21/2010 10:18	399	5.0	173.0	13.1	8.0	56.0	250.0	145.5	2.9
10/21/2010 10:19	399	5.0	173.0	13.1	8.0	55.9	250.0	145.5	2.9
10/21/2010 10:20	399	5.0	173.0	13.1	8.0	55.9	250.0	145.5	2.9
10/21/2010 10:21	400	5.0	173.0	13.1	8.0	55.9	250.0	145.5	2.9
10/21/2010 10:22	400	5.0	173.0	13.1	8.0	55.8	250.0	145.4	2.9
10/21/2010 10:23	400	5.0	173.0	13.1	8.0	55.8	250.0	145.5	2.9
10/21/2010 10:24	400	5.0	173.0	13.1	8.0	55.7	250.0	145.5	2,9
10/21/2010 10:25	400	5.0	173.0	13.1	8.0	55.8	250.0	145.5	2.9
10/21/2010 10:26	400	5.0	173.0	13.1	8.0	55.9	250.0	145.4	2.9
10/21/2010 10:27	400	5.0	173.0	13.1	8.0	56.0	250.0	145.4	2.9
10/21/2010 10:28	400	5.0	173.0	13.1	8.0	55.9	250.0	145.4	2.9
10/21/2010 10:29	400	5.0	173.0	13.1	8.0	55.8	250.0	145,4	2.9
10/21/2010 10:30	400	5.0	173.0	13.1	8.0	55.8	250.0	145.4	2.9
10/21/2010 10:31	400	5.0	173.0	13.1	8.0	55.7	250.0	145.4	2.9
10/21/2010 10:32	400	5.0	173.0	13.1	8.0	55.7	250.0	145.4	2.9
10/21/2010 10:33	400	5.0	173.0	13.1	8.0	55.6	250.0	145.4	2.9
10/21/2010 10:34	400	5.0	173.0	13.1	8.0	55.6	250.0	145.4	2.9
10/21/2010 10:35	400	5.0	173.0	13.1	8.0	55.7	250.0	145.4	2.9
10/21/2010 10:36	400	5.0	173.0	13.1	8.0	55.7	250.0	145.4	2.9
10/21/2010 10:37	400	5.0	173.0	13.1	8.0	55.6	250.0	145.4	2.9
10/21/2010 10:38	400	5.0	173.0	13.1	8.0	55.5	250.0	145.4	2.9
10/21/2010 10:39	400	5.0	173.0	13.1	8.0	55.5	250.0	145.4	2.9
10/21/2010 10:40	400	5.0	173.0	13.1	8.0	55.5	250.0	145.4	2.9
10/21/2010 10:41	400	5.0	173.0	13.1	8.0	55.4	250.0	145.4	2.9
10/21/2010 10:42	400	5.0	173.0	13.1	8.0	55.3	250.0	145.4	2.9

October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07 Air Pollution Control System (APCS) Operating Parameters Norlite Corporation - Cohoes, NY - MACT CPT 2010

Towalle	TT 0404	COCC TOO	0, 4 5030 FT	0000 TT	0000	1 100		Ш	4400
- ag No.	11-2404	DF1-2303	F1-230/ A/B	F1-2506	GVA SUCZ	LI-10 z	AC-1017 1027 103	VF-1017 1027 103	UP1-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	핍	Level ·	Feed Rate	Fluid Flow Rate	Drop
Units	Ļ	in. H ₂ 0	mdb	mdg	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
Date / Time									
10/21/2010 10:43	400	5.0	173.0	13.1	8.0	55.3	250.0	145.4	2.9
10/21/2010 10:44	400	5.1	173.0	13.1	8.0	55.3	250.0	145.4	2.9
10/21/2010 10:45	400	5.1	173.0	13.1	8.0	55.5	250.0	145.4	2.9
10/21/2010 10:46	400	5.1	173.0	13.1	8.0	55.6	250.0	145.4	2.9
10/21/2010 10:47	400	5.1	173.0	13.1	8.0	55.6	250.0	. 145.5	2.9
10/21/2010 10:48	400	5.1	173.0	13.1	8.0	55.5	250.0	145.4	2.9
10/21/2010 10:49	400	5.1	173.0	13.1	8.0	55.5	250.0	145.4	2.9
10/21/2010 10:50	400	5.1	173.0	13.1	8.0	55.4	250.0	145.4	2.9
10/21/2010 10:51	401	5.1	173.0	13.1	8.0	55.4	250.0	145,4	2.9
10/21/2010 10:52	401	5.1	173.0	13.1	8.0	55.3	250.0	145.4	2.9
10/21/2010 10:53	401	5.1	173.0	13.1	8.0	55.3	250.0	145.4	2.9
10/21/2010 10:54	401	5.1	173.0	13.1	8.0	55.4	250.0	145.4	2.9
10/21/2010 10:55	401	5.1	173.0	13.1	8.0	55.6	250.0	145.5	2.9
10/21/2010 10:56	401	5.1	173.0	13.1	8.0	55.5	250.0	145.5	2.9
10/21/2010 10:57	401	5.1	173.0	13.1	8.0	55.4	250.0	145.5	2.9
10/21/2010 10:58	401	5.1	173.0	13.1	8.0	55.4	250.0	145.5	2.9
10/21/2010 10:59	401	5.1	173.0	13.1	8.0	55.3	250.0	145.5	2.9
10/21/2010 11:00	401	5.1	173.0	13.1	8.0	55.3	. 250.0	145.5	2.9
10/21/2010 11:01	401	5.1	173.0	13.1	8.0	55.2	250.0	145.5	2.9
10/21/2010 11:02	401	5.1	173.0	13.1	8.0	55.2	250.0	145.5	2.9
10/21/2010 11:03	401	5.1	173.0	13.1	8.0	55.3	250.0	145.5	2.9
10/21/2010 11:04	401	5.1	173.0	13.1	8.0	55.4	250.0	145.5	3.0
10/21/2010 11:05	401	5.1	173.0	13.1	8.0	55.6	250.0	145.5	3.0
10/21/2010 11:06	401	5.1	173.0	13.1	8.0	55.7	250.0	145.5	3.0
10/21/2010 11:07	401	5.1	173.0	13.1	8.0	55.6	250.0	145.5	3.0
10/21/2010 11:08	401	5.1	173.0	13.0	8.0	55.5	250.0	145.5	3.0
10/21/2010 11:09	401	5.1	173.0	13.0	8.0	55.5	250.0	145.5	3.0
10/21/2010 11:10	401	5.1	173.0	13.0	8.0	55.4	250.0	145.5	3.0
10/21/2010 11:11	401	5.1	173.0	13.0	8.0	55.4	250.0	145.5	3.0
10/21/2010 11:12	401	5.1	173.0	13.0	8.0	55.5	250.0	145.5	3.0
10/21/2010 11:13	401	5.1	173.0	13.0	8.0	55.6	250.0	145.5	3.0
10/21/2010 11:14	401	5.1	173.0	13.0	8.0	55.8	250.0	145.5	3.0
10/21/2010 11:15	401	5.1	173.0	13.0	8.0	55.9	250.0	145.5	3.0

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		≦ ∥	*****	3000	<u>ا</u> د	o) opera	ation control system (Arcs) Operating raigneters		
Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	된	Level	Feed Rate	Fluid Flow Rate	Drop
Units Dafe / Time	ሴ	in. H ₂ O	mdg	. mdg	pH units	% Ht.	lb/hr	scfm	in. H ₂ O
10/21/2010 11:16	401	5.1	173.0	13.0	8.0	55.8	250.0	145.5	3.0
10/21/2010 11:17	401	5.1	173.0	13.0	8.0	55.8	250.0	145.5	3.0
10/21/2010 11:18	401	5.1	173.0	13.0	8.0	55.7	250.0	145.5	3.0
10/21/2010 11:19	401	5.1	173.0	13.0	8.0	55.7	250.0	145.5	3.0
10/21/2010 11:20	401	5.1	173.0	13.0	8.0	55.6	250.0	145.5	3.0
10/21/2010 11:21	401	5.1	173.0	13.0	8.0	55.5	250.0	145.6	3.0
10/21/2010 11:22	400	5.1	173.0	13.0	8.0	55.6	250.0	145.6	3.0
10/21/2010 11:23	400	5.2	173.0	13.0	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:24	400	5.2	173.0	13.0	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:25	400	5.2	173.0	13.0	8.0	55.9	250.0	145.6	3.0
10/21/2010 11:26	400	5.2	172.0	13.0	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:27	400	5.2	172.0	13.0	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:28	400	5.2	172.0	13.0	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:29	400	5.2	172.0	13.0	8.0	55.7	250.0	145.6	3.0
10/21/2010 11:30	400	5.2	172.0	13.0	8.0	55.6	250.0	145.6	3.0
10/21/2010 11:31	400	5.2	172.0	13.0	8.0	55.6	250.0	145.6	3.0
10/21/2010 11:32	400	5.2	172.0	13.0	8.0	55.7	250.0	145.6	3.0
10/21/2010 11:33	400	5.2	172.0	13.0	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:34	400	5.2	172.0	13.0	8.0	55.9	250.0	145.6	3.0
10/21/2010 11:35	399	5.2	172.0	13.0	8.0	55.9	250.0	145.6	3.0
10/21/2010 11:36	399	5.2	172.0	12.9	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:37	399	5.2	172.0	12.9	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:38	399	5,2	172.0	12.9	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:39	399	5.2	172.0	12.9	8.0	55.7	250.0	145.6	3.0
10/21/2010 11:40	399	5.2	172.0	12.9	8.0	55.7	250.0	145.6	3.0
10/21/2010 11:41	399	5.2	172.0	12.9	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:42	399	5.2	172.0	12.9	8.0	56.0	250.0	145.6	3.0
10/21/2010 11:43	399	5.2	172.0	12.9	8.0	56.2	250.0	145.6	3.0
10/21/2010 11:44	399	5.2	172.0	12.9	8.0	56.2	250.0	145.6	3.0
10/21/2010 11:45	400	5.2	172.0	12.9	8.0	56.2	250.0	145.6	3.0
10/21/2010 11:46	400	5.3	172.0	12.9	8.0	56.1	250.0	145.6	3.0
10/21/2010 11:47	400	5.2	172.0	12.9	8.0	56.1	250.0	145.6	3.0
10/21/2010 11:48	400	5.2	172.0	12.9	8.0	56.0	250.0	145.6	3.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010

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Tag No.	TT-2404	DPT-2303	FT-2507 A/B	FT-2508	2509 A/B	LT-102	AC-101 / 102 / 103	VF-101 / 102 / 103	DPT-4402
	Baghouse	Venturi	Scrubber	Scrubber	Scrubber	Scrubber			Ducon
Parameter	Inlet	Pressure	Recirculation	Blowdown	Liquid	Tank	Lime	Lime Carrier	Pressure
	Temperature	Drop	Flow Rate	Rate	돖	Levei	Feed Rate	Fluid Flow Rate	Drop
Units	ኍ	in. H ₂ O	mdb	mdb	pH units	% Ht	lb/hr	scfm	in. H ₂ O
Date / Time									-
10/21/2010 11:49	400	5.2	172.0	12.9	8.0	56.0	250.0	145.6	3.0
10/21/2010 11:50	400	5.3	172.0	12.9	8.0	55.9	250.0	145.6	3.0
10/21/2010 11:51	400	5.3	172.0	12.9	8.0	56.0	250.0	145.6	3.0
10/21/2010 11:52	401	5.3	172.0	12.9	8.0	56.2	250.0	145.6	3.1
10/21/2010 11:53	401	5.3	172.0	12.9	8.0	56.3	250.0	145.6	3.1
10/21/2010 11:54	401	5.3	172.0	12.9	8.0	56.3	250.0	145.6	3.1
10/21/2010 11:55	401	5.3	172.0	12.9	8.0	56.2	250.0	145.6	3.1
10/21/2010 11:56	401	5.3	172.0	12.9	8.0	56.2	250.0	145.6	3.1
10/21/2010 11:57	400	5.3	172.0	12.9	8.0	56.1	250.0	145.6	3.1
10/21/2010 11:58	400	5.3	172.0	12.9	8.0	56.1	250.0	145.6	3.1
10/21/2010 11:59	400	5.4	172.0	12.9	8.0	56.2	250.0	145.6	3.1
10/21/2010 12:00	400	5.4	172.0	12.9	8.0	56.4	250.0	145.7	3.1
10/21/2010 12:01	400	5.4	172.0	12.9	8.0	56.5	250.0	145.7	3.1
10/21/2010 12:02	400	5.4	172.0	12.9	8.0	56.6	250.0	145.7	3.1
10/21/2010 12:03	400	5.4	172.0	12.9	8.0	56.5	250.0	145.7	3.1
10/21/2010 12:04	400	5.4	172.0	12.9	8.0	56.4	250.0	145.7	3.1
10/21/2010 12:05	400	5.4	172.0	12.9	8.0	56.3	250.0	145.7	3.2
10/21/2010 12:06	400	5.4	172.0	12.9	8.0	56.3	250.0	145.7	3.2
10/21/2010 12:07	400	5.5	172.0	12.9	8.0	56.2	250.0	145.7	3.2
AVERAGE	400	5.1	172.8	13.1	8.0	55.9	250.0	145.5	2.9
MINIMUM	399	5.0	172.0	12.9	8.0	55.2	250.0	145.4	2.9
MAXIMIM	401	5.5	173.0	13.2	8.0	56.6	250.0	145.7	3.2

AECOM Environment

Appendix B

CMS / CEMS Performance Evaluation Test Results

January 2011 Calibration Sheets	pg B-1
October 2010 Calibration Sheets	pg B-56
Equipment Certification Sheets	pg B-108
CEMS Audit Summarias	na P 15

AECOM Environment

January 2011 Calibration Sheets

NORLITE CAL. SHEET CHECK LIST WWT

APPROVED	BY:	:	

CALIBRATION TITLE	INSTRUMENT TITLE	SYSTEM PARAMETERS	DATE	TECHNICIAN
EFFLUENT DISCHARGE	FISCHER PORTER	0-80 GPM	1/2/1	I Hutthan
FLOW TO EFFLUENT TANK	FISCHER PORTER	0-80 GPM	1/1/11	White and
FLOC TANK PH "A"	ROSEMOUNT	РН	1-4-11	STUNGT
FLOC TANK PH "B"	ROSEMOUNT	PH	1-4-11	Student
Pre EFFLUENT PH "A"	ROSEMOUNT	PH	1-4-1/	STUATA
Pre EFFLUENT PH "B"	ROSEMOUNT	PH	1-4-11	STUGER
TRUNION WATER	FISCHER PORTER	0-80 GPM	1/3/2	A Section Section
WASTE WATER EFF. TEMP.	ROSEMOUNT	32-212 DEG. F	1/4/11	that man
			and the same of the same of	
			Philippin and the second secon	
			and the control of th	
		and the second s	and the fact of the state of	
			A series construction of the series	
			art was a second of the latest	
			A A A A A A A A A A A A A A A A A A A	
			<u> </u>	
			A A	
	CALIBRATION TITLE EFFLUENT DISCHARGE FLOW TO EFFLUENT TANK FLOC TANK PH "A" FLOC TANK PH "B" Pre EFFLUENT PH "B" TRUNION WATER WASTE WATER EFF. TEMP.	EFFLUENT DISCHARGE FLOW TO EFFLUENT TANK FLOC TANK PH "A" FLOC TANK PH "B" FROSEMOUNT PROSEMOUNT PROSEMOUNT PROSEMOUNT ROSEMOUNT ROSEMOUNT ROSEMOUNT ROSEMOUNT FROSEMOUNT FROSEMOUNT FROSEMOUNT FROSEMOUNT FROSEMOUNT FROSEMOUNT FROSEMOUNT FROSEMOUNT	EFFLUENT DISCHARGE FISCHER PORTER 0-80 GPM FLOW TO EFFLUENT TANK FISCHER PORTER 0-80 GPM FLOC TANK PH "A" ROSEMOUNT PH FLOC TANK PH "B" ROSEMOUNT PH Pre EFFLUENT PH "A" ROSEMOUNT PH Pre EFFLUENT PH "B" ROSEMOUNT PH TRUNION WATER FISCHER PORTER 0-80 GPM	EFFLUENT DISCHARGE FISCHER PORTER 0-80 GPM 1/3 / 1/3 FLOW TO EFFLUENT TANK FISCHER PORTER 0-80 GPM 1/3 / 1/3 FLOC TANK PH "A" ROSEMOUNT PH 1-4-1/4 Pre EFFLUENT PH "A" ROSEMOUNT PH 1-4-1/4 Pre EFFLUENT PH "B" ROSEMOUNT PH 1-4-1/4 TRUNION WATER FISCHER PORTER 0-80 GPM 1/4 / 1/3 FLOW TO THE PROSEMOUNT PH 1-4-1/4 TRUNION WATER FISCHER PORTER 0-80 GPM 1/4 / 1/3 FLOW TO THE PROSEMOUNT PH 1-4-1/4 TRUNION WATER FISCHER PORTER 0-80 GPM

INSTRUMENT CALIBRATION DATA SHEET

	INST	RUME	NT CAL	_IBRA1	TON DA	ata sh	IEET		
NAME:	TRUNION	WATER							
MFG: F	ISHER PO	ORTER							
CONVE	RTER MC	DEL#: 10E	D1475SN1	2PL29KC	11C11120	01			
SERIAL	# 96VV001	834							
TAG#:	FT-	0-80 GPM	<u> </u>						
LOCATI	2000-1-00	OF EQ T	ANK	a a Title and a second a second and cond and					
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT	
1.	0 GPM	0.0 m/s	4.00mA	3.14	3,99	0 GPM	O	ŷ.	
2	20 GPM	0.76 m/s	8.00mA	7,49	7.99	20 GPM	3.0	7.5	
3	40 GPM			[].00	12,00	40 GPM	40	¥€ 5	
4	60 GPM			16.00	16.00	60 GPM	60	40	
5	80 GPM	3.04 m/s	20.00mA	}\$19 h	20.00	80 GPM	\$0	80	
CALIBRA	ATION DAT	E: //3	/ 11	INSTRUI	MENT TEC	HNICIAN:	Hutth	Ĺ,	
		MFG: FISH	HER PORT	ER	SERIAL: 2	40097080/	Y011		
TEST MODEL: 55XC4 CERTIFICATION DUE: 6/22/11 FOUIPMENT MEG: FUNE SERIAL: 956500114									
EQUIPMENT MFG: FLÜKE SERIAL: 956500114									
USI		MODEL:(8	Company of the same of the sam		CERTIFIC	ATION DU	E: 6/23/11		
		MFG: FLU			SERIAL: 1	3930061			
		MODEL: 7	7		CERTIFIC	ATION DU	E: 7/26/11		
COMME	NTS	 						*.* <u></u>	
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		: 	<u>.</u>		<u>, ja silaidadas '</u>	·····	and the second second		
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						, <u>.</u>			
								T-7-11-1	
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			- A						

INSTRUMENT CALIBRATION DATA SHEET									
NAME: FLOW TO EFFLUENT TANK									
MFG: FISHER PORTER									
CONVERTER MODEL#: 50XM13BXKD10AABC224									
SERIAL# 93W014159									
TAG#: 0-80 GPM									
LOCATION: WWT NORTH WALL OVER DESK									
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT	
1	0 GPM	0.0 m/s	4.00mA	4,37	4,43	0 GPM	0	0	
2	20 GPM	1.26 m/s	8.00mA	8.02	9.02	20 GPM	20	70	
3	40 GPM	2.52 m/s	12.00mA	12.03	12.03	40 GPM	L/ o	uf s	
4	60 GPM		16.00mA	16.01	16.03	60 GPM	60	(6 st	
5	80 GPM	5.04 m/s	20.00mA	20.01	7000	80 GPM	80	80	
CALIBRA	TION DAT	E: [/}	M	INSTRUI	MENT TEC	HNICIAN:	Hud no		
MFG:			HER PORT	ER	SERIAL: 240097080/Y011				
TES		MODEL: 5			CERTIFIC	ATION DU	E: 6/22/11		
EQUIP	• •	MFG: FLUKÉ			SERIAL: 9	56500114			
USE	D	MODEL: 87			CERTIFIC	ATION DU	E: 6/23/11		
		MFG: FLUKE			SERIAL: 13930061				
		MODEL: 7	7		CERTIFIC	ATION DU	E: 7/26/11		
СОММЕ	NTS:					<u></u>		,	
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						······································			

INSTRUMENT CALIBRATION DATA SHEET

INSTRUMENT CALIBRATION DATA SHEET										
NAME: EFFLUENT DISCHARGE TO MOHAWK										
MFG: FISHER PORTER										
CONVERTER MODEL#: I0D1475PN12PL29KD11C1112C1										
SERIAL# 95W019156										
	TAG#: FT- 0-80 GPM									
LOCATION: SOUTH WALL OF WASTE WATER BUILDING										
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT		
1	0 GPM	0.0 m/s	4.00mA	40	64. 32	0 GPM	. n.	0		
2	20 GPM	0.76 m/s	8.00mA	8.01	के छ।	20 GPM	20	70		
.3	40 GPM	1.52 m/s		11.98	11.29	40 GPM	40	U O		
4	60 GPM			15,61	15.91	60 GPM	60	60		
5	80 GPM	3.04 m/s	20.00mA	20.48	3000	80 GPM	80.	9°5		
CALIBRA	TAD NOITA	E: 1/3	111	INSTRU	VIENT TEC	HNICIAN:	Heithin	a.		
	MFG: FISHER POR			TER SERIAL: 240097080/Y011						
TES	-	MODEL:,55XC4			CERTIFICATION DUE: 6/22/11					
EQUIP		MFG: FLUKE			SERIAL: 9	56500114				
USE	ED	MODEL 87			CERTIFIC	ATION DU	E: 6/23/11			
		MFG: FLUKE			SERIAL: 1	3930061				
	XX	MODEL: 7	7		CERTIFIC	ATION DU	E: 7/26/11			
COLARGE	AITC.				· · · · · · · · · · · · · · · · · · ·			····		
COMME	1815.									
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<u>.</u>					· · · · · · · · · · · · · · · · · · ·					
	<u>.</u>					· · · · · · · · · · · · · · · · · · ·				
				N			· · · · · · · · · · · · · · · · · · ·			

INSTRUMENT CALIBRATION DATA SHEET										
NAME: PRE EFFLUENT PH "B"										
MFG: ROSEMOUNT										
MODEL徐: 1054A PH										
SERIAL#: E95-41167 TAG# AE4613B										
RANGE: 0 - 14 PH = 4-20mA										
LOCATI	ON: SOU	ITH WALL	OF WAS	STE WATE	ER BUILD	ING		<u> </u>		
TEST POINTS										
2	4.0 PH	4	8.6mA	8 90	8.4	4.0 PH	4.35	40		
3	10.00 PH	10	15.5mA	15-61	15.5	10.00 PH	10.15	10.00		
CALIBRATION DATE:										
COMME	NTS:	USE BUFF	ER SOLUT	IONS OF 4	AND 10					
	·									
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			_ ·				······································			
			·			·	 			
			******				· · · · · · · · · · · · · · · · ·			

INSTRUMENT CALIBRATION DATA SHEET											
NAME: PRE EFFLUENT PH "A"											
MFG: ROSEMOUNT											
MODEL#: 1054A PH											
SERIAL#: E95-42468 TAG# AE4613A											
RANGE: 0 - 14 PH = 4-20mA											
LOCATI	ON: SOU	TH WALL	OF WAS	TE WATE	R BUILD	ING					
TEST POINTS	ideal Input	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT			
2	4.0 PH	4	8.6mA	8.82	X. b	4.0 PH	4.22	4.0			
3	10.00 PH	10	15.5mA	15 86	15.5	10.00 PH	10.38	1000			
						900-1-3-2 Table 100 - 2 Table					
CALIBRA	ATION DAT	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	المستحدد ال	INSTRUM	IENT TECI	-INICIAN:	STUATT				
COMME	NTS:	USE BUFF	ER SOLUT	IONS OF 4	AND 10						
		•	·. ·								
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<u></u>	<u>,,</u>	· · · · · · · · · · · · · · · · · · ·									

INSTRUMENT CALIBRATION DATA SHEET

NAME: FLOC TANK PH "B"

MFG: ROSEMOUNT

MODEL#: 1054A PH

SERIAL#: E95-42946 TAG# AE4605B

RANGE: 0 - 14 PH = 4-20mA

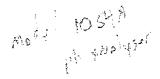
LOCATION: ON THE FLOC TANK

TEST POINTS	IDEAL INPUT	actual Input	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	4.0 PH	4	8.6mA	7.86	86	4.0 PH	4 25	4.0
3	10.00 PH	10	15.5mA	15-58	15 5	10.00 PH	10.10	1000

CALIBRATION DATE: 1 4 1 INSTRUMENT TECHNICIAN: STUPET

COMMENTS: USE BUFFER SOLUTIONS OF 4 AND 10

INSTRUMENT CALIBRATION DATA SHEET NAME: FLOC TANK PH "A" MFG: ROSEMOUNT MODEL#: 1054A PH SERIAL#: E95-42703 TAG# AE4605A RANGE: 0 - 14 PH = 4-20mA LOCATION: ON THE FLOC TANK CUTPUT OUTPUT INDICATOR INDICATOR IDEAL ACTUAL IDEAL TEST IDEAL AS AS LEFT AS FOUND INDICATOR POINTS INPUT INPUT OUTPUT as left FOUND 430 4.0 PH 4.0 2 4.0 PH 4 8.6mA 800 8.6, 10,00 10.35 15.84 10.00 PH 3 10.00 PH 10 15.5mA INSTRUMENT TECHNICIAN: STUART CALIBRATION DATE: COMMENTS: **USE BUFFER SOLUTIONS OF 4 AND 10**



				·					
NAME:	WASTE V	VATER E	FFLUENT	TEMP.			<u></u>		
MFG: R	MFG: ROSEMOUNT								
MODEL#: 3044C DEG.(F) RTD									
SERIAL	¥: 014340)2		.	•				
TAG#:	TT-4629		·						
LOCATI	LOCATION: SOUTH WALL WASTE WATER BUILDING								
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	INPUT OUTPUT AS OUTPUT IDEAL INDICATOR AS I					INDICATOR AS LEFT	
1	32 F	32	4.00mA	7,97	7.41	32 F	31	31	
2	77 F	77	8.00mA	7.92	7.97	77 F	76	26	
3	122 F	122	12.00mA	11.94	11.94	122 F	121	13/	
4	167 F	167	16.00mA	15.95	15.95	167 F	166	56	
5	212 F	212	20.00mA	19,93	14.93	212F	3-11	2.77	
CALIBRA	TION DAT	E: 1/4	· / 11	INSTRUI	VIENT TEC	HNICIAN:	Hughten	٠ ٩	
		MFG: MO	DCAL		SERIAL: 1	/1779640-4			
TES	ST	MODEL:(9	0KJ/	CERTIFICATION DUE: 1/29/11					
EQUIP	MENT	MFG: RO	SEMOUNT	SERIAL:					
USE	ED	MODEL: 2	268/275		CERTIFICATION DUE: NONE				
		MFG: NBS	RTDPR	OBE	DBE SERIAL: 2285041				
		MODEL: 1	OC-86-100-	S-1-A-8-T	-T CERTIFICATION DUE: 7/9/11				
									
COMME	NTS:								
·									
					***************************************	*** J*********************************			

NORLITE CAL. SHEET CHECK LIST MISC.

APPROVED BY:	

	CALIBRATION TITLE	INSTRUMENT TITLE	SYSTEM PARAMETERS	DATE	TĘCHNICIAN
ø	LIME FEEDERS	ACCURATE	1-500 LBS/HR	1-3-11	STURRET/ TOMMASING
	LIME TAG# AC-101	AC-102 AC-103		2042	
ø	CEM	CISCO	O2 / COC / HRA	1/4/11	fuffalu
gr.	PRIMARY AIR VENT (LEL)	MSA	20% - 30%	1/1/11	A SAME
	02/LEL SENSORS	MSA			4.0
ē	QUARTERLY CAL.	(JAN.)APRIL,JULY,OCT.)	0-25 / 0-50	175/1	Hudthe.
,	FINISH PLANT PRESSURES	DWYER	0-15 "H2O	1/7/1	434
ø	FIRE PUMP TEST	JOSELYN CLARK	TEST RUN	1/6/11	in which have
G	FUEL FARM VENT (O2)	SENSIDYNE	0-10 %	1/7/11	DARCINS
c	PUMP SEAL ALARM CHECK	ECHOTELL/UNITED ELECTRIC	PASS/FAIL	1/7/11	Dane in
ø	VORTEX FLOW METER	YOKOGAWA	INSPECTION	1-3-11	STUART
ļ			2.00		
				, , , , , , , , , , , , , , , , , , ,	
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NORLITE CORPORATION INSTRUMENT CALIBRATION DATA SHEET NAME: PRIMARY AIR VENT SYSTEM MFG: MSA MODEL#: 5000 SERIAL#: LOCATION: OLD OIL ROOM (under K1) TEST FAIL LEL (%) PASS POINTS 1 **ZERO** 20% 2 SPAN 30% INSTRUMENT TECHNICIAN: CALIBRATION DATE: 19:00 CALIBRATION TIME: MFG: MSA SERIAL: TEST MODEL: ULTIMA CERTIFICATION DUE: NONE **EQUIPMENT** MFG: SERIAL: USED MODEL: **CERTIFICATION DUE:** MFG: SERIAL: MODEL: CERTIFICATION DUE: COMMENTS:

NORLITE CORPORATION INSTRUMENT CALIBRATION DATA SHEET

4.0.0								
!	NAME: LIME FEEDERS							
MFG: ACCURATE								
<u></u>	25-500 LBS/I	HR						
LOCATION			TEST	MFG: AVO	MODEL: 3599	186		
TAG# AC-	101, AC-102,	AC-103	EQUIPMENT	SERIAL: 2097	.206086			
			USED	CERTIFICATION	ON DUE: 7/26/1	1		
LIME FEEDER#	FEEDER SETTING	TARGET RPM	RPM HELIX DRIVE SHAFT	(RPM)(.139) = ft Displaced by 2.25 1/2.helix/hr	Hydrated Lime	Target Weight		
1	300	54	53.99	7,50	300.2	300		
1	375	67.5	67.53	939	3,25.)	375		
1	450	81	80.98	11.26	450 2	-450		
1	500	90	90.03	12.1	500 6	500		
2	300	54	54.03	7.51	300.4	. 300		
2	375	67.5	67.50	9.38	375.3	375		
2	450	81	80.97	11.25	450.2	450		
2	500	90	89.98	12.51	500. 3	500		
	word triests to a contract							
3	300	54	54.04	7.51	300.5	300		
3	375	67.5	67.55	9 39	375.6	375		
3	450	81	80.96	11.25	450.1	450		
3	500	90	89. <i>वे</i> 5	12,50	500,1	500		
CALIBRATION DATE: 1/3/11 INSTRUMENT TECHNICIAN:								
COMMENTS: NO ADJUSTMENT NECESSARY IF WITHIN (+) OR (-) 5%								
**** KILN MUST BE ON USED OIL WHEN DOING THIS TEST ****								
MEN WOOT DE ON OSED DIE WHEN DOING 11113 1ES1								
<u> </u>								

DATE:	1/3/11
NAME: VORTEX FLOW METER #1	()
MFG: YOKOGAWA	FLOW METER READING: スクタ. 4
MODEL#: DY	VISUAL INSPECTION: Ø W
SERIAL#: 3353B031 2003	
CERT. DUE: 9/7/11	
TAG#: VF-101	
LOCATION: LIME SILO	
NAME: VORTEX FLOW METER #2	
MFG: YOKOGAWA	FLOW METER READING: 213.7
MODEL#: DY	VISUAL INSPECTION: ************************************
SERIAL#: 3353B034 2003	
CERT. DUE: 8/14/11	
TAG#: VF-102	
LOCATION: LIME SILO	
NAME: VORTEX FLOW METER #3	
MFG: YOKOGAWA	FLOW METER READING: 2180
MODEL#: DY	VISUAL INSPECTION:
SERIAL#: 3353B032 2003	
CERT. DUE: 8/3/11	
TAG#: VF-103	
LOCATION: LIME SILO	
	INSTRUMENT TECHNICIAN: 57 UATT
COMMENTS:	

INSTRUMENT CALIBRATION DATA SHEET

NAME: CEM CALIBRATION

LOCATION: CEM BUILDING

K1A								
\times	O ₂	coc	HRA					
K1 obs	7,7	60	N/O					
CEM	9,8	6)	15					

K2A								
\times	O 2	COC	HRA					
K2 obs	A. G.	65	المنطقة منطقة					
CEM	9.9	66	44					

CALIBRATION DATE: 1/4/11 INSTRUMENT TECHNICIAN: Huthing

NOTE: USE CALIBRATION GAS OF 50 ppm CO AND 10% O2

COMMENTS:

MONTHLY FIRE PUMP TEST - OPERATING PROCEDURE

•	1/6/11		
Frequen	1. Monthly for 15 minutes.		
<u>Notifica</u> ⊡	1. Inform Safety, Kiln Supervisor, kiln #1 and #2 control room operators, fuel farm operator, and 2777 2777 1. Inform Safety, Kiln Supervisor, kiln #1 and #2 control room operators, fuel farm operator, and 2777 27		
Necessa 	33 9 Third the on of LGT and there is no track intolating anower during testing. 33 9 System # Radio, keys for fire suppression equipment, hearing protection. #76 -002-861		
	1. Check level of water in batteries (distilled). Add as necessary. 2. Check level of antifreeze in radiator. Add as necessary. 3. Check level of oil in diesel engine at dip stick. Service as needed/once every 6 months. Last service date: Service due:		1. Unlock and open Joselyn Clark control panel.
o'	2. Hold STOP button in (located on outside right side) while turning selector knob from AUTO to OFF.		
□ /	3. Release STOP button (low pressure light comes on).		
o´	4. Turn selector know to MANUAL 1 (to begin test for battery #1).		
	5. All employees will put on hearing protection. Press start button located inside control panel (fire alarm lights only will activate). Low oil pressure light will go off. Motor pump will start. Ampmeters will discharge then charge to 14-15 amps (control panel).		
	6. Allow pump to run for 5 minutes. While running, check for water drainage outside building.		
	7. Turn SELECTOR knob to OFF. Turn SELECTOR knob to MANUAL 2 (to begin test for battery #2).		
Ġ	8. Press START button located inside control panel. Motor pump will start.		
T	9. Allow pump to run for 5 minutes. While running, check for water drainage outside building.		
U	10. Turn SELECTOR knob to off. Turn SELECTOR knob to AUTO.		
	11. Close and lock Joselyn Clark control panel.		
6	12. Go to Utility building Motor Control Center, unlock center blue fire panel.		
ð,	13. Depress RESET LAMP TEST (left button). This will reset the fire pump run alarm.		
₫ [/] .	14. Close and lock center blue fire control panel.		
<u> </u>	15. Notify Safety, Kiln Supervisor Kiln #1 & #2 control room operators, fuel farm operator and Supervisor that test is complete 1200. 1-800-624-2774		
	Auto dialer - code-1234-1		

INSTRUMENT CALIBRATION DATA SHEET

L. Hutmp.

MSA CALIBRATIONS

SENSOR SENSOR		SENSOR	DATE	AS FO	UND	AS L	EFT	Oxygen sensor
TYPE	NUMBER	AREA	CAL'D	zero	span	zero	span	change date
LEL	1	SOLIDS REPRO.	1/5/11	3.0	56.4	2.0	500	
O)(YGEN	1A	N.W. WALL	1/5/4	0.0	20.5	0.0	3018	
LEL	2	SOLIDS REPRO.	1/5/11	7 - Z 10	53,6	9.0	500	
OXYGEN	2A	S.E. WALL	1/0/4	0,0	20.5	010	20.8	
LEL	3	LGF BLDG, ACROSS	18474	-0.6	\$1,0	8.0	(3.5	
OXYGEN	зА	FROM PANELVIEW	1/0/11	0.0	1416	010	7016	
LEL	4	LGF BLDG, N.W.	1/6611	~ 3 , y	50.8	0.0	5016	
OXYGEN	4A	CORNER	1/6/0	0.0	2111	0.0	2018	
LEL	5	LGF BLDG.N.E.	1/6/8	- 0 . 0	46.7	20	5000	
OXYGEN	5A	CORNER	1 / 4/1 / 11	000	2112	Ø 10	12.8	
LEL	6	LGF BLDG, S.W.	1 / 13/2	7.3	487	010	5010	
OXYGEN	6A	CORNER	116/2	B = D	} Ø (∀	*	2 1918	
LEL	7	LGF BLDG. S.E.		-1, 3	49.7	3	52.0	
OXYGEN	7A	CORNER	11614	0.0	21,1	<i>3</i> 7 € 13	2018	
LEL	8	NORTH TUNNEL	1/6/4	w0.3	50, €	810	10.0	
OXYGEN	8A	DOOR	1/6/11	4.0	200	0.0	20.8	
LEL	9	NORTH TUNNEL	1/6/11	-219	47.4	6.12	5000	
OXYGEN	9A	НАТСН	1/4/1	010	20,6	0.0	20.8	
LEL	10	SOUTH TUNNEL	1/6/6	2117	47.1	010	80.0	
OXYGEN	10A	HATCH	1/6/1	910	20.8	9.0	20.8	
LEL	11	SOUTH TUNNEL	1/6/1	-114	4813	000	100	
OXYGEN	11A	DOOR	1/6/11	∌!Ω	1016	ONV	100 8	· · · · · · · · · · · · · · · · · · ·
LEL	12	UPPER E.Q. EAST	1/6/11	-1.44	4010	010	5000	· · · · · · · · · · · · · · · · · · ·
OXYGEN	12A	WALL	1/6/0	~ # 1 T	20.4	0.0	1.00	
LEL	13	UPPER E.Q. WEST	3/6/1	~ } , }	5317	015	5000	· · · · · · · · · · · · · · · · · · ·
OXYGEN	13A	WALL	1/6/1	0.1	19.7	JA 1. 15	30.8	· · · · · · · · · · · · · · · · · · ·
LEL	14	LOWER E.Q. SOUTH	3/6/1	3.3	4811	0.0	50.0	
OXYGEN	14A	WALL	1/6/2	0.1	200	10.0	20,8	
LEI.	15	LOWER E.Q. NORTH	1 64/11	5.0	5,3	DED	5000	· · · · · · · · · · · · · · · · · · ·
OXYGEN	15A	WALL	17671	0.0	20.4	0.0	2016	
LEL	16	EXTRUDER ROOM.	1/6/11	0,7	487	1910	50.0	·
OXYGEN	16A	WESTWALL	1611	0.0	104	0.0	208	
LEL	17	K1 GAS ROOM	1 /6-/21	0.9	49,		L'ELP	
OXYGEN	17A	1	1.416	Ø1 /	10.7	J 1 45	12.8	

NORLITE CORPORATION INSTRUMENT CALIBRATION DATA SHEET NAME: FUEL FARM VENT O2 MFG: SENSIDYNE MODEL#: SENSALERT SERIAL#: 102-207 PART# 7013276-2 LOCATION: SE CORNER OF LGF BUILDING TEST PASS FAIL 02 **POINTS** 7.05% 1 SPAN 2 17/11 INSTRUMENT TECHNICIAN: CALIBRATION DATE: 4 BARLING **CALIBRATION TIME:** MFG: SENSIDYNE SERIAL: 102-207 TEST MODEL: SENSALERT CERTIFICATION DUE: NONE **EQUIPMENT** MFG: SERIAL: USED MODEL: **CERTIFICATION DUE:** MFG: SERIAL: MODEL: CERTIFICATION DUE: COMMENTS: INSTALLED SENSOR لىدى لى

PAD TEST POINTS				1			
	PARAMETER		PUMP SEA	L CHECK			
			PASSED	FAILED	7.10		
TANK 3	LEVEL		V				
TANK 4	LEVEL		V.				
TANK 5	LEVEL		V				
TANK 6	LEVEL		'				
INSIDE TEST POINTS			PUMP SEAL CHECK				
			PASSED	FAILED			
100A	LEVEL		V	· · · · · · · · · · · · · · · · · · ·	dead out also		
1.18/8×1×19.28 2.21.18/8/2011	PRESSURE				A STATE OF THE STA		
100B	LEVEL		V	****			
	PRESSURE				195 (205) 1 195 (35) 195 (35) 23) (35) 4 195 (35)		
200A	LEVEL						
	PRESSURE		- 1/				
200B	LEVEL		$\overline{}$				
	PRESSURE					grate and the same	
CALIBRATION DATE: 1/7/11 INSTRUMENT TECHNICIAN: DARLINS							
COMMENTS:							

FINISH PLANT PRESSURES

Technician:

Hughman

AREA	ZERO	ERO CONDITION READINGS					DATE
A) Photohelics	$\supset <$		H	LO	DP	COMMENTS	
1) MAIN BAGHOUSE	e h	. 94	-9.0	-9.0	010		1/7/11
2) OVERSIZE HOPPER	0 4	0 k	9.0	-12.0	12.0		1/7/11
3) STATIONARY BELT	ok	ok	d . U	4210	0,0		1/2/11
4) RADIAL STACKER BELT	ok.	04	O.9	V: 0	0.0		1/3/11
5) #2 BELT	ok	ok	0.0	0,0	0.0		1/4/3
6) TOP OF FINES SILO	o k	oh	0.0	0.0	Ore	not in use	1/324
7) SODA ASH SILO	ot	ok	0.0	0.0	8.0		127/18
			·				
B) Magnehelics	><		H	LO	DP	COMMENTS	
1) EAST DUST SILO	ok	ok	4.0	O. r	4,0		1/2/11
2) WEST DUST SILO	ok	ok	1,0	Oit	0,5		7/3/4

NORLITE CAL. SHEET CHECK LIST K1

APPROVED BY:

		The state of the s	And the second s	APPROVED BY	
CALIBRATION TITLE	TAG#	INSTRUMENT TITLE	SYSTEM PARAMETERS	DATE	TECHNICIAN
# BACK END GAS TEMP.	TT-4303	ROSEMOUNT 3044C	0-1400 F	1-4-11	STUGAT
BAGHOUSE D/P	DPT-4303	ROSEMOUNT 1151 DP	0-15" H2O	15-2+6	STUNGT
BAGHOUSE INLET TEMP	TT-4302	ROSEMOUNT D5NAB4	0-700 F	3-27-17	STUMP F
BAGHOUSE LEAK DETECTOR	PD-1000	ВНА	0-100%	1-7-11	STULL
* BLOWDOWN FLOW	FT-1508	FISCHER PORTER 10D1475	0-50 GPM	1-4-11	57468
CAUSTIC FLOW	FT-4401	FISCHER PORTER 10D1475	0-40 GPM	J-4-12	Stragi
# EAST COOLER PRESSURE	PT-1205	ROSEMOUNT 1151 DP	0-15" H2O	11-5-11	STUART
HEAT EXCHANGER D/P	DPT-4301	ROSEMOUNT 1151 DP	0-6" H2O	1-7-1	STUDE
♦ HEAT EXCHANGER TEMP	TT-4301	ROSEMOUNT 3044P	0-700 F	1-13-1	Strugg &
→ HOOD PRESSURE **BACK*** D/P	DPT-5550	ROSEMOUNT 1151 DP	(-2.0) - (+1.0)" (+20	1-6-11	STUARL
HOOD PRESSURE D/P	DPT-5203	ROSEMOUNT 1151 DP	(-2.0) - (+1.0)" H20	1-5-11	STUATT
I.D. FAN CURRENT	IDF-4301	ABB (ACS 600)	0-500 AMPS	1/10/11	Dancing
LGF ATOM. AIR PRESSURE	PT-9104	ROSEMOUNT 1151 DP	0-200 PSI	J-5-11	STURAT
LGF FEED RATE	MM-4301	MICROMOTION DL100	0-20 GPM	1/31/1	Delly
LGF PRESSURE	PT-9106	ROSEMOUNT 1151 DP	0-110 PSI	1=2=1	าชัยลส ไ
MULTICLONE D/P	DPT-4302	ROSEMOUNT 1151 DP	0-6" H2O	UA	MA
NOZZLE WATER	MM-4302	MICROMOTION DS065	0-15 GPM	p./30°	NA
PRIMARY AIR PRESSURE	PT-1108	ROSEMOUNT 1151 DP	0-60" H2O	Jugari.	STUANT
SCRUBBER DUCON D/P	DPT-4402	ROSEMOUNT 1151 DP	0-10" H2O	1-6-1	STVDEL
* SCRUBBER pH A	4401A	ROSEMOUNT 2081 pH	pH	[wint-1]	57.920
SCRUBBER PH B	4401B	ROSEMOUNT 2081 pH	рН	J=3-J=1!	27127
SCRUBBER QUENCH TEMP.	TT-5103	ROSEMOUNT 3044	0-200 F	3-81-11	S4.406.4
SCRUBBER RECIRC FLOW A	FT-4403A	FISCHER PORTER 10D1475	0-250 GPM	[-4-]	STUARY
SCRUBBER RECIRC FLOW B	FT-4403B	FISCHER PORTER 10D1475	0-250 GPM	1-4-11	STV0-17
SCRUBBER TANK LEVEL	LT-101	ROSEMOUNT 1151 LT	0-40" H2O	1-5-11	STUDIO
SHALE FEED	AR-4301	ACCURATE MPC200	0-40 TPH	1/5/10	Der ling
SOLIDS ATOM AIR PRESSURE	PT-9105	ROSEMOUNT 1151 DP	0-200 PSI	11-5-11	STVATT
STACK GAS FLOW	FT-5555	FCI GF90	0-86,000 scfm	7/3//1	d who as
VENTURI D/P	DPT-4401	ROSEMOUNT 1151 DP	0-10" H2O	1-6-11	STUDIET
WASTE OIL FEED RATE	MM-4303	MICROMOTION DS100	0-20 GPM	1/2/11	Derling
WEST COOLER PRESSURE	PT-5204	ROSEMOUNT 1151 DP	0-15" H2O	1-5-11	STUART

NAME: KILN 1 LGF FEED RATE									
MFG: MICROMOTION									
MODEL#: DL-100S223 SU	RICE LAKE SCALE	MODEL# IQ355							
SERIAL#: 12002014 TAG# MM-4301		SERIAL# 145431							
RANGE: 0-20 GPM = 4-20mA		CERT. DUE 9/11							
LOCATION: KILN 1 GAS ROOM									
FIRST GRAB SAMPLE	BUCKET #1								
GROSS WEIGHT <u>13.74 lbs</u> NET WEIGHT <u>13.74 lbs</u>	TARE WEIGHT	<u>∅.00 lbs</u>							
NET WEIGHT 13.70 lbs									
SECOND GRAB SAMPLE	BUCKET#2								
GROSS WEIGHT 11.70 lbs	TARE WEIGHT	0 . 이스 lbs							
NET WEIGHT 11.70 lbs									
THIRD GRAB SAMPLE	BUCKET#3								
GROSS WEIGHT 9.05 lbs	TARE WEIGHT	<u> () () () () () ()</u>							
NET WEIGHT <u>9.△5 lbs</u>									
AVERAGE TOTAL SCALE WI	EIGHT 11.48 lbs								
	OTALIZER WEIGHTS								
1st GRAB <u>13. 7 Cibs</u>		,							
2nd GRAB 11.70 lbs									
3rd GRAB <u>♥7, / ○ lbs</u>		s							
AVERAGE MICRON	OTION TOTALIZER WEIGHTS	77.50 lbs							
	ALE AVG. AND TOTALIZER AVG.								
CALIBRATION DATE: 1/3/11 INS	TRUMENT TECHNICIAN:	Salvanias Language Salva							
DRIFT ACCEPTANCE: +/- 1.0lbs	Mikis kedi 16 Mikis kedippog (pollosz sokrospok) pogłącowyz more namo od sowie sokre sz roma sa na	The state of the s							
COMMENTS:									
The state of the s									
	The second secon								
		<u>,</u>							

HAD I MORIERI CALIDRA HORI DA JA SALET										
NAME: KILN 1 WASTE OIL FEED RATE										
MFG: MICROMOTION										
MODEL#: DS100S128SU 950323	RICE LAKE SCALE MODEL# 1Q355									
SERIAL#: 183743 TAG# MM-43	003 SERIAL# 145431									
RANGE: 0-20 GPM = 4-20mA	CERT. DUE: 9/11									
LOCATION: KILN 1 GAS ROOM										
FIRST GRAB SAMPLE	BUCKET #1									
GROSS WEIGHT 2.75 II	<u>os</u> TARE WEIGHT <u>이 이 lbs</u>									
	<u>os</u>									
SECOND GRAB SAMPLE	BUCKET#2									
GROSS WEIGHT 8.10	bs TARE WEIGHT O bs									
THIRD GRAB SAMPLE	BUCKET#3									
GROSS WEIGHT <u>/ク.つり </u> NET WEIGHT <u>/ク.つり </u>										
AVERAGE TOTAL SCALE WEIGHT STATE Ibs										
MICROMOTION	N TOTALIZER WEIGHTS									
1st GRAB 8.80 lbs										
2nd GRAB 6 00 lbs										
3rd GRAB <u>/ 0 0 0 lbs</u>	ROMOTION TOTALIZER WEIGHTS St. 93 lbs									
DIFFERENCE BETWEEN	SCALE AVE. AND TOTALIZER AVE lbs									
CALIBRATION DATE: 1/3/11	NSTRUMENT TECHNICIAN: 10 m 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									
DRIFT ACCEPTANCE: +/- 1.0 lbs										
COMMENTS:										

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SHALE FEED RATE									
MFG: ACCURATE									
MODEL#: MPC 200		RICE LAKE SCALE	MODEL# IQ355						
SERIAL#: 3335	AG# AR-4301		SERIAL# 145431						
RANGE: 0-40 TPH = 4-20	0mA		CERT. DUE 9/11						
LOCATION: KILN 1 CONTROL ROOM, UNDER SHALE SILO									
FIRST GRAB SAMPLE		BUCKET #1	<i>i</i>						
GROSS WEIGHT	87.70 lbs	TARE WEIGHT	U.U lbs						
NET WEIGHT	<u>x 7.70 lbs</u>								
SECOND GRAB SAMPLE	and an	BUCKET#2	ii						
GROSS WEIGHT	85.10 lbs	TARE WEIGHT	<u> </u>						
NET WEIGHT	<u> </u>								
THIRD GRAB SAMPLE	7	BUCKET#3	La company of the com						
GROSS WEIGHT	87.7 lbs	TARE WEIGHT	// /)lbs						
NET WEIGHT	<u> </u>	2)							
AVERAGE TOTAL SCALE WEIGHT // CUlbs									
CURRENT SHALE SETPOINT <u>TPH</u>									
CU	RRENT SHALE SET	POINT <u>TPH</u>							
FIRST TACH READING	223 (ofpm	TACH	MODEL# 359986						
and the second s			MODEL# 359986 SERIAL# 2097.206086						
FIRST TACH READING	223 (efpm 2239 fpm								
FIRST TACH READING SECOND TACH READING	223 <u>(o</u> fpm	TACH	SERIAL# 2097.206086 CERT. DUE: 7/26/11						
FIRST TACH READING SECOND TACH READING THIRD TACH READING	223 (efpm 223.7 fpm 223.7 fpm AVERAGE TAG	TACH	SERIAL# 2097.206086 CERT. DUE: 7/26/11 pm						
FIRST TACH READING SECOND TACH READING THIRD TACH READING CALCULATE THE T	223 (ofpm CC) () fpm 222.7 fpm AVERAGE TAC PH OF THE MAT	TACH CH READING 22-7f	SERIAL# 2097.206086 CERT. DUE: 7/26/11 pm S FORMULA						
FIRST TACH READING SECOND TACH READING THIRD TACH READING CALCULATE THE T (BELT SPEED) (GF	223 (efpm 22) (fpm 223.7 fpm AVERAGE TAC PH OF THE MAT RAB SAMPLE AVE	TACH CH READING	SERIAL# 2097.206086 CERT. DUE: 7/26/11 pm S FORMULA						
FIRST TACH READING SECOND TACH READING THIRD TACH READING CALCULATE THE T (BELT SPEED) (GF	223 (efpm 22) fpm 222.7 fpm AVERAGE TAC PH OF THE MAT RAB SAMPLE AVE s. / 35 ft.) (60m	TACH CH READING	SERIAL# 2097.206086 CERT. DUE: 7/26/11 pm S FORMULA 2000 = TPH TPH						
FIRST TACH READING SECOND TACH READING THIRD TACH READING CALCULATE THE T (BELT SPEED) (GF (27) 7 fpm) (lb	223 (efpm 223 (efpm 223.7 fpm 223.7 fpm AVERAGE TAC PH OF THE MAT RAB SAMPLE AVE S. / 35 ft.) (60m ETEST IS NOT W PIRICAL SPAN MI	TACH CH READING CH READING TERIAL TAKEN USING THIS L' LENGTH OF GRAB) (60) / 2 nin/hr) / 2000 lbs./ton = ITHIN .5 TON OF THE CURRE UST BE CHANGED. (menu #5	SERIAL# 2097.206086 CERT. DUE: 7/26/11 pm S FORMULA 2000 = TPH TPH ENT SETPOINT,						
FIRST TACH READING SECOND TACH READING THIRD TACH READING CALCULATE THE T (BELT SPEED) (GF (27) 7 fpm) (lb	223 (efpm 223 (efpm 223.7 fpm 223.7 fpm AVERAGE TAC PH OF THE MAT RAB SAMPLE AVE S. / 35 ft.) (60m ETEST IS NOT W PIRICAL SPAN MI	TACH CH READING	SERIAL# 2097.206086 CERT. DUE: 7/26/11 pm S FORMULA 2000 = TPH TPH ENT SETPOINT,						
FIRST TACH READING SECOND TACH READING THIRD TACH READING CALCULATE THE T (BELT SPEED) (GF (27) fpm) (lb. IF THE TPH FROM THE THE EM	223 (efpm 223 (efpm 223.7 fpm 223.7 fpm AVERAGE TAC PH OF THE MAT RAB SAMPLE AVE S. / 35 ft.) (60m ETEST IS NOT W PIRICAL SPAN MI	TACH CH READING CH READING TERIAL TAKEN USING THIS L' LENGTH OF GRAB) (60) / 2 nin/hr) / 2000 lbs./ton = ITHIN .5 TON OF THE CURRE UST BE CHANGED. (menu #5	SERIAL# 2097.206086 CERT. DUE: 7/26/11 pm S FORMULA 2000 = TPH TPH ENT SETPOINT,						
FIRST TACH READING SECOND TACH READING THIRD TACH READING CALCULATE THE T (BELT SPEED) (GF (22) 7 fpm) (223 (efpm 223 (efpm 223.7 fpm 223.7 fpm AVERAGE TAC PH OF THE MAT RAB SAMPLE AVE S. / 35 ft.) (60m ETEST IS NOT W PIRICAL SPAN MI	TACH CH READING CH READING TERIAL TAKEN USING THIS L' LENGTH OF GRAB) (60) / 2 nin/hr) / 2000 lbs./ton = ITHIN .5 TON OF THE CURRE UST BE CHANGED. (menu #5	SERIAL# 2097.206086 CERT. DUE: 7/26/11 pm S FORMULA 2000 = TPH TPH ENT SETPOINT,						



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NORLITE CORPORATION INSTRUMENT CALIBRATION DATA SHEET NAME: KILN 1 I.D. FAN MOTOR CURRENT MFG: ABB MODEL#: ACS600 RANGE: 0-500 AMPS LOCATION: KILN 1 MCC TAG# IDF-4301 CONTROL RM. AMMETER TEST EQUIPMENT USED **TEST POINTS** READING READING (MRA) 385 MFG: Fluke / Fluke 366 PHASE A 355 MODEL#: 334/334 300 PHASE B SERIAL#: 13000087/90704869 340 PHASE C 3 (e Ce CERTIFICATION DUE: 7/26/11 9/30/11 CALIBRATION DATE: 1/10/11 INSTRUMENT TECHNICIAN: DAN CINS DRIFT ACCEPTANCE: +/- 25 AMPS **COMMENTS:**

INSTRUMENT CALIBRATION DATA SHEET									
NAME: J	NAME: KILN 1 MULTICLONE DIFFERENTIAL PRESSURE								
MFG: R	OSEMOU	NT							
MODEL	≸: 1151 D/	P 0-6" H2	O = 4-20	mA					
SERIAL	禁: 150117	1							
TAG#: D	PT-4302								
LOCATI	ON: TOP		EXCHAN						
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT	
1	0"H2O	0	4.00mA			0"H2O			
2	1.5"H ₂ O	1.5	8.00mA			1.5"H ₂ O			
3	3.0"H ₂ O	3.0	12.00mA			3.0"H ₂ O			
4	4.5"H ₂ O	4.5	16.00mA			4.5"H ₂ O			
5	6.0"H ₂ O	6.0	20.00mA			6.0"H ₂ O			
CALIBRA	ATION DAT	E: 8/40	//h	INSTRUI	VIENT TEC	HNICIAN:			
		MFG: TRA	NSMATIO	N	SERIAL: 6	\$599902/C	19004		
TES	ST	MODEL: 1	091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11	
EQUIP	MENT	MFG: TRA	NSMATIO	N	SERIAL: 8467002				
USI	ΞD	MODEL: 9	SD0312G		CERTIFICATION DUE: 10/28/11				
		<u> </u>	NSMATIO	N	SERIAL: 97851101				
		MODEL: S	SD0412G	olekum toka sansukur akati	CERTIFIC	CATION DU	E: 9/30/11		
COMME	ENTS: N	/A wires re	emoved						
				, -	· · · · · · · · · · · · · · · · · · ·		•		

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	· ·							•	
							· · · ·		
			·						

NAME: KILN 1 NOZZLE WATER		~
MFG: MICROMOTION		
MODEL#: DS065S113	RICE LAKE SCALE	MODEL# IQ355
SERIAL#: 160559 TAG# MM-4302		SERIAL# 145431
RANGE: 0-15 GPM = 4-20mA		CERT. DUE: 9/11
LOCATION: KILN 1 GAS ROOM		
FIRST GRAB SAMPLE	BUCKET #1	
GROSS WEIGHT	TARE WEIGHT	ibs
NET WEIGHT		
SECOND GRAB SAMPLE	BUCKET#2	
GROSS WEIGHT Ibs	TARE WEIGHT	<u>lbs</u>
NET WEIGHTlbs		
THIRD GRAB SAMPLE	BUCKET#3	
GROSS WEIGHT <u>lbs</u>	TARE WEIGHT	lbs
NET WEIGHT lbs		
AVERAGE TOTAL SCALE W	EIGHTlbs	
MICROMOTION T	OTALIZER WEIGHTS	
1st GRAB <u>lbs</u>		
2nd GRAB lbs		
3rd GRAB <u>lbs</u>		·
AVERAGE MICRO	MOTION TOTALIZER WEIGHTS	lbs
DIFFERENCE BETWEEN SC	ALE AVE. AND TOTALIZER AVE.	. lbs_
CALIBRATION DATE: ////	STRUMENT TECHNICIAN:	
	en de la compressión de la compressión de la compressión de la compressión de la compressión de la compressión	eparacipina and the common half
COMMENTS: NOT CURRENTLY IN USE		
	,	
		
	· · · · · · · · · · · · · · · · · · ·	·
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	INST	RUME	NT CAI	IBRAT	ION D	ata sh	IEET	350 de 700 de 700 de 700 de 700 de 700 de 700 de 700 de 700 de 700 de 700 de 700 de 700 de 700 de 700 de 700 d
NAME:	K1 SCRU	BBER QU	IENCH TE	MP			, , , , , , , , , , , , , , , , , , ,	
MFG: R	OSEMOL	INT						
MODEL	¥: 3144 (0-200 DEC	G.(F) = 4-2	OmA TYP	EK			
SERIAL	学: 055161	18						
TAG#:	TT-5103				-		1	
LOCATI	ON: K1 N	· · · · · · · · · · · · · · · · · · ·				VI		
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
11	0 F	0	4.00mA	4.01	401	0 F	. 6.	.4
2	50 F	50	8.00mA	§ .00	X-00	50 F	49.9	५९.५
3	100 F	100	12.00mA	20.0	12.05	100 F	100.5	100.5
4	150 F	150	16.00mA	16-04	16.04	150 F	150.5	150.5
5	200 F	200	20.00mA	20.06	20.06	200F	₹. co <u>k</u>	200\$
CALIBRA	TION DAT	E: //	E : 1	INSTRUI	VIENT TEC	HNICIAN:	STUDIE	
		MFG: TRA	NSMATIO	N	SERIAL:	540201	•	
TES	ST .	MODEL: 1	062 J/K		CERTIFIC	ATION DU	E: 1/29/11	
EQUIP	MENT		SEMOUNT	SERIAL:				
USE	ED	MODEL: 2	75/		CERTIFIC	ATION DU	E: NONE	
		MFG:			SERIAL:			
The committee of the co	· · · · · · · · · · · · · · · · · · ·	MODEL:			CERTIFIC	ATION DU	E:	
СОММЕ	NTS:				and the state of t			
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	 		, <u>, , , , , , , , , , , , , , , , , , </u>	·	<u></u>	· · · · · · · · · · · · · · · · · · ·	<u> </u>	
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	I GENII	KUMICI	vi val	.idra i		aia on	125 U		
NAME:	K1 BACK	END GAS	STEMP_						
	OSEMOU		· · · · · · ·						
			EG.(F) = 4	-20mA T	YPE K				
	¥: 005009	30			***************************************				
	TT-4303		*************************************				·		
LOCATI			PLATFO		EVEL .	i a			
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	AS FOUND	INDICATOR AS LEFT	
1	0 F	0	4.00mA	3 90	3,00	0 F	. ;	- (
2	350 F	350	8.00mA	7.98	7.98	350 F	348.7	348,7	
3	700 F	700	12.00mA	11-99	11.99	700 F	699.1	100ml	
4	1050 F	1050	16.00mA	15.49	:<.99\	1050 F	1049-5	1049.5	
5	1400 F	1400	20.00mA	10, 5, 3	19 प्ष	1400F	1304.0	1399.7	
CALIBRA	TAG NOITA	Γ Ε : } \ \	1.	INSTRUI	MENT TEC	HNICIAN:	STUAT		
		MFG: TRA	NSMATIO	N	SERIAL;				
TE	ST	MODEL: 1	1062 J/K		CERTIFIC	CATION DU	E: 1/29/11		
EQUIP	WENT	MFG: RO	SEMOUNT	SERIAL:					
US	ED	MODEL: 2			CERTIFICATION DUE: NONE				
in the state of th			"K"THERM					:	
		Л,	C-K-I-83-8-	R-13.5"	CERTIFIC	ATION DL	JE: 7/9/11		
	CCEPTA	NCE: +/-	10 F						
COMME	ENTS:					· 			
	 . 				 		<u></u>		
						·		· · · · · · · · · · · · · · · · · · ·	
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INSTRUMENT CALIBRATION DATA SHEET								
NAME: N	CILN 1 HE	AT EXCH	ANGER E	XIT TEMI)			
MFG: R	OSEMOU	INT			·			
MODEL	*: 3044P	0-700 DE	G.(F) = 4-	20mA				
SERIAL	終: 041045	54						
TAG#:	TT-4301							
LOCATI			NGER EX		(ground le	vel)		
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	AS FOUND	INDICATOR AS LEFT
1	. 0F	0	4.00mA	\$ 39	3.49	0 F	- d	er 1
2	175 F	175	8.00mA	7 40	7 9 D	175 F	1746	1 mg 2 2
3	350 F	350	12.00mA	18,.50	12.00	350 F	350,0	356.0
4	525 F	525	16.00mA	16.01	16,01	525 F	525-4	\$35,4
5	700 F	700	20.00mA	30.53	90.03	700 F	701.5	7.01.3
CALIBRA	ATION DAT	E: [4	de account de constant de cons	INSTRU	WENT TEC	HNICIAN:	55067	
	· .	MFG: TRA	NSMATIO	N	SERIĄĿ: 6	6540201 ⁾		
TE:	ST	MODEL: 1	1062 J/K	CERTIFICATION DUE: 1/29/11				
EQUIP	MENT	MFG: RO	SEMOUNT		SERIAL:			
USI	ED	MODĘĹ: 2	275)		CERTIFIC	ATION DU	IE: NONE	<u></u>
		MFG: NBS	"K"THERM	OCOUPLE	<u> </u>			
		MODEL:	SC-K-I-83-8	3-R-13.5"	CERTIFIC	CATION DL	JE: 7/9/11	A
DRIFT /	ACCEPTA	NCE: +/-	10F			<u></u>		
COMME	ENTS:							
	· · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·			
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	INST	RUME	NT CAL	_IBRAT	TON DA	ata sh	EET	
NAME: I	(ILN 1 BA	GHOUSE	INLET TO	EMP		_==:::::::::::::::::::::::::::::::::::		
MFG: R	OSEMOL	INT						
MODEL	E D5NAE	34 0-70	0 DEG.(F) = 4-20m	A			
SERIAL	¥: 032956	66 03/00						
TAG#:								
LOCATI		HOUSE II	NLET DU					
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0 F	. 0	4.00mA	<u> ಆ</u> .೯೦	4.00	0 F	0	era Çi
2	175 F	175	8.00mA	4.00	7.99	175 F	174,5	1745
3	350 F	350	12.00mA	11.99), a a	350 F	379.8	349.8
4	525 F	525	16.00mA	1501	1601	525 F	525,3	<i>\$</i> 23,3
5	700 F	700	20.00mA	in da	१२,०७	700 F	699.6	(99.5
CALIBRA	TION DAT	re: ¡ oʾ		INSTRU	MENT TEC	HNICIAN:	STUER	Ť
	,	MFG: TRA	NSMATIO	N	SERIAL:	540201		
TES	•	MODEL: 1	062 J/K		CERTIFIC	ATION DU	E: 1/29/11	
EQUIP		MFG: ROS			SERIAL:			
USE	ED	MODĘĹ: 2				ATION DU	E: NONE	
			"K"THERM					
			6G-K-I-83-8	-R-13.5"	CERTIFIC	ATION DU	E: 7/9/11	
		NCE: +/-	10 F					
COMME	INTS:							
		1.00				<u> </u>		
		· · · · · ·			· · ·	······································		<u>.</u> .
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	MSII		vi Cal	.16RA1	IUN UI	aia si			
NAME:	KILN 1 SC	RUBBER	BLOWD	OWN FLO	W RATE				
	ISHER PO								
						DUE:12/10			
				D10AAAC	224, SEF	RIAL# 92W	442690		
	FT-1508	0-50 GP			· · · · · · · · · · · · · · · · · · ·				
LOCATI	ON: REC		ION TANK						
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT	
1	0 GPM	0.0 m/s	4.00mA	4,00	400	0 GPM	2	Ō	
2	12.5 GPM	23.7 m/s	8.00mA	2.50	8.00	12.5 GPM		12,5	
3	25.0 GPM	47.3 m/s	12.00mA	1.99	11,00	25.0 GPM		74.9	
4	37.5 GPM	70.9 m/s	16.00mA	1600	\$ 6.00	37.5 GPM	<u> </u>	325	
5	50.0 GPM	94.6 m/s	20.00mA	20.0≎ 	3000	50.0 GPM	50.0	:50 C	
CALIBRA	ATION DAT	re: 1 94	-	INSTRU	MENT TEC	HNICIAN:	STUA	สโ	
		MFG: FISI	HER PORT	ΓER		240097080			
TE:	ST	MODEL: 5	5XC4		CERTIFIC	CATION DU	E: 6/22/11		
EQUIP	MENT	MFG: FLU	ΙĶΕ	SERIAL: 956500114					
US	ED	MODEL: 8	87)	CERTIFICATION DUE: 6/23/11					
		MFG: FLU	JKE		SERIAL: 13930061				
		MODEL: 7			CERTIFIC	CATION DU	JE: 7/26/11		
DRIFT	ACCEPTA	NCE: +/-	5.0 GPM						
COMMI	ENTS:								
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L								-,	
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INSTRUMENT CALIBRATION DATA SHEET									
NAME: KILN 1 CAUSTIC FLOW RATE									
MFG: F	ISHER PO	RTER		· · ·					
METER	MODEL#:	10D1475	, 1.5" SE	RIAL# 52	2733				
CONVE	RTER MO	DEL#: 50	XM13BXK	D10AABC	224, SEF	NS6 #JAL	014160		
TAG#:	FT-4401	0-40 GP	M						
LOCATI	ON: REC	IRCULAT	ION TANK	(AREA					
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	INPUT OUTPUT AS AS LEET INDICATOR AS FOUND AS						
1	0 GPM	0.0 m/s	4.00mA	3 24	304	0 GPM	0	٥	
2	10 GPM	6.3 m/s	8.00mA	7.98	7.95	10 GPM		9.95	
. 3	20 GPM	12.7 m/s	12.00mA	13.02	12,02	20 GPM	2006	20.06	
4	30 GPM	19.0 m/s	16.00mA	16.0	16,01	30 GPM		30.04	
5	40 GPM	25.3 m/s	20.00mA	2001	20.0!	40 GPM	4000	40.00	
CALIBR/	ATION DAT	re: 1/	Section of the sectio	INSTRU	.,		STVA	17"	
		MFG: FIS	HER PORT	TER	<u> </u>	240097080			
TE	ST	MODEL: 5	5XC4	CERTIFICATION DUÉ: 6/22/11					
EQUIP	MENT	MFG: FLL	ike	SERIAL: 956500114					
US	ED	MODEL: 8	المستخب المستخب		CERTIFIC	CATION DL	JE: 6/23/11		
		MFG: FL	JKE		SERIAL: 13930061				
		MODEL: 7	77		CERTIFIC	CATION DU	JE: 7/26/11		
COMMI	ENTS:	**************************************		<u></u>	· · · · · · · · · · · · · · · · · · ·			<u>.</u>	
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INSTRUMENT CALIBRATION DATA SHEET								
NAME:	KILN 1 SC	RUBBER	RECIRCI	JLATION	FLOW R	ATE "B"		
	ISHER PO							
	MODEL#:							
	RTER MO			D10AAA	C224, SEF	RIAL祭 93W	013335	
	FT-4403B	0-250						
LOCATI	ON: REC		ON TANK		<u>, ,</u>			1
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	3,49	3.99	0 GPM	0	0
2	62.5 GPM	5.9 m/s	8.00mA	8.02	807	62.5 GPM		63,2
3	125 GPM	11.8 m/s	12.00mA	12-07	12,07	125 GPM	126.5	1265
4	187.5 GPM	17.7 m/s	16.00mA	16-10	(6. 0	187.5 GPM		1899
5	250 GPM	23.7 m/s	20.00mA	20.11	[20.1]	250 GPM	253	253.1
CALIBR/	ATION DAT	E: 104	p. Company	INSTRU	MENT TEC	HNICIAN:	570	ior
		MFG: FISI	HER PORT	TER.	SERIAL:	240097080/	Y011)	
TE:	ST	MODEL: 5	5XC4	CERTIFICATION DUE: 6/22/11				
EQUIP	MENT	MFG: FLL	ÎKE		SERIAL: 956500114			
US	ED	MODĘĹ: 8	37		CERTIFIC	CATION DU	E: 6/23/11	
		MFG: FLL	JKE		SERIAL:	13930061		· · · · · · · · · · · · · · · · · · ·
	<u> </u>	MODEL: 7	77		CERTIFIC	CATION DU	E: 7/26/11	
DRIFT	ACCEPTA	NCE: +/-	10 GPM					
СОМИ	ENTS:							
							· · · · · · · · · · · · · · · · · · ·	 .
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INSTRUMENT CALIBRATION DATA SHEET												
NAME:	NAME: KILN 1 SCRUBBER RECIRCULATION FLOW RATE "A"											
MFG: F	ISHER PO	RTER										
METER	MODEL#:	10D1475,	4" SERI	AL# 92W	442658 <u>[</u>	DUE:12/10						
CONVE	RTER MO	DEL#: 50》	(M13BXK	D10AABC	224, SER	IAL# 93W6	34754					
17.1-77.	FT-4403A	0-250 0										
LOCATI	ON: REC		ON TANK	and the second section	/							
TEST POINTS												
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	Ò	0				
2	62,5 GPM	5.9 m/s	8.00mA	7.07	7.97	62.5 GPM		611				
3	125 GPM	11.8 m/s	12.00mA	11.95	11.95	125 GPM	124 3	1243				
4	187.5 GPM	17.7 m/s	16.00mA	11.93	11.93	187.5 GPM	300	186.2				
5	250 GPM	23.7 m/s	20.00mA	19,98	19.98.	250 GPM	244.8	2498				
CALIBRA	ATION DAT	E: Ó		INSTRU		HNICIAN:		No. 10 10 10 10 10 10 10 10 10 10 10 10 10				
		MFG: FISI	HER PORT	TER	1 -							
EQUIP	MENT	MFG: FJJ	·		EQUIPMENT MFG: FLUKE SERIAL: 956500114 USED MODEL: 87 CERTIFICATION DUE: 6/23/11							
	MENT	MFG: FLC MODEL: 8	37/		ļ		E: 6/23/11					
EQUIP	MENT	MFG: FJJ	37/		CERTIFIC SERIAL:	ATION DU 13930061						
EQUIP USI	MENT ED	MFG: FLU MODEL: 8 MFG: FLU MODEL: 7	37/ JKE 77		CERTIFIC SERIAL:	ATION DU						
EQUIP USI DRIFT	MENT ED ACCEPTAI	MFG: FLU MODEL: 8 MFG: FLU MODEL: 7	37/ JKE 77		CERTIFIC SERIAL:	ATION DU 13930061						
EQUIP USI	MENT ED ACCEPTAI	MFG: FLU MODEL: 8 MFG: FLU MODEL: 7	37/ JKE 77		CERTIFIC SERIAL:	ATION DU 13930061						
EQUIP USI DRIFT	MENT ED ACCEPTAI	MFG: FLU MODEL: 8 MFG: FLU MODEL: 7	37/ JKE 77		CERTIFIC SERIAL:	ATION DU 13930061						
EQUIP USI DRIFT	MENT ED ACCEPTAI	MFG: FLU MODEL: 8 MFG: FLU MODEL: 7	37/ JKE 77		CERTIFIC SERIAL:	ATION DU 13930061						
EQUIP USI DRIFT	MENT ED ACCEPTAI	MFG: FLU MODEL: 8 MFG: FLU MODEL: 7	37/ JKE 77		CERTIFIC SERIAL:	ATION DU 13930061						
EQUIP USI DRIFT	MENT ED ACCEPTAI	MFG: FLU MODEL: 8 MFG: FLU MODEL: 7	37/ JKE 77		CERTIFIC SERIAL:	ATION DU 13930061						
EQUIP USI DRIFT	MENT ED ACCEPTAI	MFG: FLU MODEL: 8 MFG: FLU MODEL: 7	37/ JKE 77		CERTIFIC SERIAL:	ATION DU 13930061						
EQUIP USI DRIFT	MENT ED ACCEPTAI	MFG: FLU MODEL: 8 MFG: FLU MODEL: 7	37/ JKE 77		CERTIFIC SERIAL:	ATION DU 13930061						
EQUIP USI DRIFT	MENT ED ACCEPTAI	MFG: FLU MODEL: 8 MFG: FLU MODEL: 7	37/ JKE 77		CERTIFIC SERIAL:	ATION DU 13930061						

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER BLOWDOWN PH #1"A"

MFG: ROSEMOUNT

MODEL#: 2081 PH

SERIAL#: A-95 33996 TAG# 4401A

RANGE: 3.5 - 10.5 = 4-20mA

LOCATION: RECIRCULATION TANK

EQUIPMENT USED: ROSEMOUNT 268

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	7.0 PH	7	12.0mA	10.92	72 <i>0</i>	7.0 PH	653	7.0
3	10.00 PH	10	18.8mA	18.59	18 59	10.00 PH	9.80	10.90

CALIBRATION D	ATE: \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	INSTRUMENT TECHNICIAN	STUARY
DRIFT ACCEP	TANCE: +/- 0.5 PH		
COMMENTS:	USE BUFFER SOLL	JTIONS OF 7 AND 10	
	**	1-10-0	
		<u></u>	
		* · · · · · · · · · · · · · · · · · · ·	
			

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER BLOWDOWN PH #1"B"

MFG: ROSEMOUNT

MODEL#: 2081 PH

SERIAL#: D92-90765 TAG# 4401B

RANGE: 3.5 - 10.5 = 4-20mA

LOCATION: RECIRCULATION TANK

EQUIPMENT USED: ROSEMOUNT 268

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	7.0 PH	7	12.0mA	9.08	/2.0	7.0 PH	5.73	7.0
3	10.00 PH	10	18.8mA	17.28	18.8	10.00 PH	1 / -	10,00

CALIBRATION DATE:	Parish of the state of the stat	INSTRUMENT TECHNICIAN:	STUART
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DRIFT ACCEPTANCE: +/- 0.5 PH

COMMENTS: USE BUFFER SOLUTIONS OF 7 AND 10

	INST	RUME	nt cai	LIBRAT	TION D	ata sf	IEET	
NAME:	KILN 1 W	EST COO	LER UND	ER GRAT	E PRESS	URE		
	OSEMOU			· · · · · · · · · · · · · · · · · · ·				
MODEL	終: 1151 D	/P 0-15" I	1 ₂ O = 4-20) mA				
SERIAL	斧: 151900)2						·
TAG#: [PT-5204		****					
LOCAT	ON: KILN	1 CONTR	ROL ROO	И				
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0"H ₂ O	0	4.00mA	1. 60	400	0"H₂O	ð	0
2	3.75"H ₂ O	3.75	8.00mA	K-ac	કુ. છ	3.75"H₂O	5 75	3.75
3	7.5"H₂O	7.5	12.00mA	12-00	PO	7.5"H ₂ O	7.5	7.5
4	11.25"H ₂ O	11.25	16.00mA	1600	1600	11.25"H ₂ O	1/25	ll は
5	15.0"H₂O	15.0	20.00mA	20.00	21.00	15.0"H₂O	15.0	160
CALIBRA	TAD NOITA	TE: //	5/11	INSTRUI	WENT TEC	HNICIAN:	STUBLET	
		MFG: TRA	NSMATIO	N	SERIAL: 6	599902/C1	9004	
TES	· ·	MODEL: 1			CERTIFIC	ATION DU	E: 3/25/11	4/27/11
EQUIPI		MFG: TRA	··	N	SERIAL: 8	467002		
USE	ED	MODEL: S			CERTIFIC	ATION DU	E: 10/28/11	-
		MFG: TRA	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	N	SERIAL: 9	7851101		
		MODEL. S	D0412G		CERTIFIC	ATION DUI	E: 9/30/11	
COMME	NTS:						***************************************	
						-	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
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	INST	RUME	NT CAL	_IBRAT	TON D	ata sh	IEET	en de la company
NAME:	KILN 1 HC	OD PRES	SSURE				-	
MFG: R	OSEMOU	NT						
MODEL	傑: 1151 DA	P -2.0" -	1.0" H₂O =	= 4-20 mA				
	終: 150116	9				<u></u>		
	OPT-5203	······						
LOCATI	ON: KILN		ROL ROOF					
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	-2.00"H2O	-2.00	4.00mA	4.00	132	-2.00"H2O	~ * .	-12,40
2	-1.25"H2O	-1.25	8.00mA	\$ 60	Santo.	-1.25"H2O	ž .	1,25
3	-0.50"H2O		12.00mA	12.00		-0.50"H2O	*	. 592
4	0.25"H2O	0.25	16.00mA	100	1600	0.25"H2O	\ Z.j	99 T
5	1.00"H2O	1.00	20.00mA	20 60	20.00	1.00"H2O	1.00	100
CALIBRA	TAD NOITA	E: 1/5		INSTRU	VIENT TEC	HNICIAN:	STUA	
	·	MFG: TRA	NSMATIO	N	SERIAL: 6	599902/C1	19004)	
TES		MODEL: 1		, , , , , , , , , , , , , , , , , , ,	CERTIFIC	ATION DÙ	E: 3/25/11	4/27/11
EQUIP		·	NSMATIO	N	SERIAL: 8	467002	<u> </u>	
USI	ED	MODEL: 8		tanii da			E: 10/28/11	
	·		<u>"NSMATIO</u>	N	SERIAL: 9		 	
Hilling, photos, 3 trind phone		MODEL:	Miles are a second of the second		CERTIFIC	ATION DU	E: 9/30/11	
	CCEPTA	NCE: +/- (0.25" H ₂ O					
COMME	EN 15:							
			; <u>!!</u>	·		<u> </u>	<u></u>	· · · · · · · · · · · · · · · · · · ·
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	80 4 O 1					a ia on		
NAME: I	KILN 1 EA	ST COOL	ER UNDE	R GRATI	PRESSI	JRE		
MFG: R	OSEMOU	NT						
MODEL	傑: 1151 D	/P 0 -15" F	12 0 = 4-20) mA		_		
SERIAL	炸: 150026	4						
TAG#: F	T-1205							
LOCATI	ON: KILN	1 CONTR	ROL ROOF	VI _				
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	· IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0"H2O	0	4.00mA	8,00	5.49	0"H₂O	0	0
2	3.75"H ₂ O	3.75	8.00mA	8,00	8.00	3.75"H ₂ O	१७	3.75
3	7.5"H ₂ O	7.5	12.00mA	12.0	2.00	7.5"H ₂ O	7.5	7.5
4	11.25"H₂O	11.25	16.00mA	16.00	16.00	11.25"H ₂ O	11.25	11.25
5	15.0"H₂O	15.0	20.00mA	20 w	2000	15.0"H ₂ O	15 0	N s
CALIBRA	ATION DAT	E: 1 5	1.73	INSTRUI	VIENT TEC	HNICIAN:	STVE	77
		MFG: TRA	NSMATIO	Ŋ	SERIAL: 6	599902/C1	9004/	
TES		MODEL: 1	091/1091		CERTIFIC	ATION DŪ	Ē: 3/25/11	4/27/11
EQUIPI	į.	MFG: TRA	NSMATIO	N	SERIAL: 8	467002		
USE	ED	MODEL: 8	The second secon		CERTIFIC	ATION DU	E: 10/28/11	
			NSMATIQ	N	SERIAL: 9	7851101		
		MODEL: S	D0412G)	CERTIFIC	ATION DU	E: 9/30/11	* *
COMME	:NTS:						·	
		· <u></u>						:
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MACHANIA MANAGAMAN MANAGAMAN MANAGAMAN MANAGAMAN MANAGAMAN MANAGAMAN MANAGAMAN MANAGAMAN MANAGAMAN MANAGAMAN M	INST	RUME	nt cai	LIBRAT	TION D	ata sh	HEET	
NAME:	KILN 1 PR	RIMARY A	IR FAN P	RESSURI	<u> </u>		 	
1	OSEMOL							·····
MODEL	#: 1151 D	/P 0-60" I	H ₂ O = 4-20	D mA				
SERIAL	#: 149002	21	····					
TAG#: F	PT-1108		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·			1-761
LOCATI		SIDE KILI	11 CONT	ROL ROC	OM	. w		
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H₂O	0	4.00mA	U.00	4.00	0"H2O	- 1	Ō
2	15"H ₂ O	15	8.00mA	\$.E	S.st.	15"H ₂ O	15	15
3	30"H ₂ O	30	12.00mA	1200	1200	30"H ₂ O	ه تر	\$ 0 ⁴
4	45"H ₂ O	45	16.00mA	16.06	1 to 100	45"H2O	-15	4/
5	20.00 20.00 20.00 60 60 60 60							
CALIBRA	TION DAT	E: 1/5		INSTRUI	VENT TEC	HNICIAN:	STUNT	
			NSMATIO	N	SERIAL: 6	5999Q2/C1	9004	
TES		MODEL: 1	091/1091		CERTIFIC	ATION DU	≣: 3/25/11	4/27/11
EQUIPN		MFG: TRA		N	SERIAL: 8	467002		
USE	:D	MODEL: S		o i de la companya de la companya de la companya de la companya de la companya de la companya de la companya d	CERTIFIC	ATION DUE	E: 10/28/11	
:			NSMATIO	N	SERIAL: 9	7851101		
		MODÉL: S	D0412G/		CERTIFIC	ATION DUE	E: 9/30/11	
COMME	NTS:							
				 				
						-		
					 	<u> </u>		
			·.····	}	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
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			·	 	F-W			
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	INST	RUME	NT CAL	IBRAT	TION DA	ata sh	EET	
NAME: I	KILN 1 SC	LIDS ATO	OMIZATIO	N AIR PR	ESSURE			
MFG: R	OSEMOU	NT						
MODEL:	然: 1151 D	/P 0-200 I	PSI = 4-20) mA				
SERIAL	#: 155908	9						
TAG#: F	T-9105							
LOCATI	ON: OUT	SIDE KILN	I 1 CONT	ROL ROC	M			
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0 PSI	0	4.00mA	1/10	U.CC	0 PSI	0	<u> </u>
2	50 PSI	50	8.00mA	8.00	110	50 PSI	56	11
3	100 PSI	100	12.00mA	1200	32 C.	100 PSI	150	154
4	150 PSI	150	16.00mA	场色	5 X	150 PSI	150	50
.5	200 PSI	200	20.00mA	20.0c	7000	200 PSI	300	150
CALIBRA	ATION DAT	Γ Ε : }	**************************************	INSTRU	MENT TEC	HNICIAN:	Stien	7
		MFG: TRA	NSMATIO	N	SERIAL	599902/C	9004	
TES	ST.	MODEL: 1	091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11
EQUIP	MENT	MFG: TRA	NSMATIO	N	SERIAL: (C19687		
US	ΞD	MODEL: S			CERTIFIC	ATION DU	E: 6/23/11	
		MFG: AM	ETEK		SERIAL: I	V1851680-2		
	- 1000 A	MODEL: N	/IOD CAL		CERTIFIC	ATION DU	E: 1/29/11	
COMME	ENTS:					Tanana Arana Ar		
				ilyaAttenii (cami		***************************************		

	INST	RUMEI	NT CAL	_IBRAT	ION DA	ata sh		
MARAFT. L		F FEED L	· <u></u>				····	
	OSEMOU		INC PRES	SOURE	<u> </u>			
		P 0-110 I	PSI = 4-20	ı mA	· · · · · · · · · · · · · · · · · · ·			
	*: 146701		01 - 7 20	, , , , , , , , , , , , , , , , , , , ,				
TAG#: P	-				-			
		DE KILN 1	GAS RO		1144			
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 PSI	0	4.00mA	ય.લ્ટ		0 PSI	1.	£"
2	27.5 PSI	27.5	8.00mA	8.00	\$ 10 h	27.5 PSI	9 2 -	27%
3-	55 PSI	55	12.00mA	17.00	12.46	55 PSI		
4	82.5 PSI	82.5	16.00mA	r/M/	Kill	82.5 PSI		\$ 5
5	110 PSI	110	20.00mA	250	1000	110 PSI		
CALIBRA	TION DAT	TE: 1/3		INSTRUI	MENT TEC	HNICIAN:	57049	7
	Marie Company	MFG: TRA	NSMATIO	N	SERIAL:	5599902/C1	9004	
TES	ST	MODEL: 1	091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11
EQUIPI	VENT	MFG: TRA	NSMATIO	N	SERIAL: 0	C19687		
USI	ΞD	MODEL: S	SS1410G.	· ·	CERTIFIC	CATION DU	E: 6/23/11	
		MFG: AMI	ETEK		SERIAL: I	M851680-2		
		MODEL: N			CERTIFIC	CATION DU	E:4/29/11	
DRIFT A	CCEPTA	NCE:= +/-	- 5 PSI					
COMME	NTS:							
								<u></u>
			_ .	··-···································				
				<u></u>				· · · · · ·
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	<u> —</u>	· · • · · · · · · · · · · · · · · · · ·			<u> </u>		W. 1200 W. 1	·
<u></u>		<u> </u>						

		INST	RUME	nt cal	_IBRAT	TION D	ata sh	EET	
SERIAL#: 1486596 TAG#: PT-9104 LOCATION: OUTSIDE KILN 1 CONTROL ROOM TEST IDEAL INPUT SIGNAL OUTPUT AS LEFT INDICATOR AS FOUND AS LEFT 1	NAME: I	KILN 1 LG	F ATOMIZ	ZATION A	IR PRES	SURE			
SERIAL#: 1486596	MFG: R	OSEMOU	NT						
TAG#: PT-9104	MODEL:	終 1151 D	/P 0-200 l	PSI = 4-20) mA				
TEST DEAL ACTUAL IDEAL OUTPUT AS LEFT INDICATOR AS	SERIAL	%: 148659	6						
TEST IDEAL NPUT SIGNAL NPUT	TAG#: F	T-9104						·	
INPUT SIGNAL SIGNAL OUTPUT SIGNAL OUTPUT SIGNAL SIGNAL OUTPUT SIGNAL OUTPUT SIGNAL OUTPUT SIGNAL OUTPUT SIGNAL OUTPUT SIGNAL OUTPUT AS LEFT INDICATOR AS FOUND AS LEFT INDICATOR AS L	LOCATI	THE RESERVE OF THE PERSON NAMED OF THE PERSON	SIDE KILN	I 1 CONT	ROL ROC	M			
2 50 PSI 50 8.00mA \$\times_00 \\ \cdots_00 \		INPUT	INPUT		AS				INDICATOR AS LEFT
3 100 PSI 100 12.00mA	1	0 PSI	0	4.00mA	4.00	900	0 PSI	ð	
4 150 PSI 150 16.00mA 16.00 150 PSI 150 SO 5 200 PSI 200 20.00mA 16.00 16.00 200 PSI 200 200 200 PSI 200 200 200 PSI 200 200 PSI 200 200 PSI 200 200 PSI 200 200 200 200 200 PSI 200 200 200 200 200 200 200 200 2	2	50 PSI	50	8.00mA	8.00	500	50 PSI		30
5 200 PSI 200 20.00mA 10.00 200 PSI 200 PS	3		100	12.00mA	12.00		100 PSI	100	180
CALIBRATION DATE: / S/II INSTRUMENT TECHNICIAN: STANTION TEST MODEL: 1091/1091 CERTIFICATION DUE: 3/25/11 4/27/11 EQUIPMENT MFG: TRANSMATION SERIAL: C19687 USED MODEL: SS1410G CERTIFICATION DUE: 6/23/11 MFG: AMETEK SERIAL: M851680-2 MODEL: MOD CAL CERTIFICATION DUE: 1/29/11 COMMENTS:	4	150 PSI	150	16.00mA		 	150 PSI		<i>30</i>
MFG: TRANSMATION SERIAL: 6599902/C19004 TEST MODEL: 1091/1091 CERTIFICATION DUE: 3/25/11 4/27/11 EQUIPMENT MFG: TRANSMATION SERIAL: C19687 USED MODEL: SS1410G CERTIFICATION DUE: 6/23/11 MFG: AMETEK SERIAL: M851680-2 MODEL: MOD CAL CERTIFICATION DUE: 1/29/11 COMMENTS:	5	200 PSI	200	20.00mA	20.00	1,0,00	200 PSI	?0U	300
TEST MODEL: 1091/1091 CERTIFICATION DUE: 3/25/11 4/27/11 EQUIPMENT MFG: TRANSMATION SERIAL: C19687 USED MODEL: SS1410G CERTIFICATION DUE: 6/23/11 MFG: AMETEK SERIAL: M851680-2 MODEL: MOD CAL CERTIFICATION DUE: 1/29/11 COMMENTS:	CALIBRA	ATION DAT	E: //s	/11	INSTRU	MENT TEC	HNICIAN:	37 <i>0</i> 4	47
EQUIPMENT MFG: TRANSMATION SERIAL: C19687 USED MODEL: SS1410G CERTIFICATION DUE: 6/23/11 MFG: AMETEK SERIAL: M851680-2 MODEL: MOD CAL CERTIFICATION DUE: 1/29/11 COMMENTS:			MFG: TRA	NSMATIO	N	SERIAL: 6	\$59990 <u>2</u> /C1	9004	
USED MODEL: SS1410G CERTIFICATION DUE: 6/23/11 MFG: AMETEK SERIAL: M851680-2 MODEL: MOD CAL CERTIFICATION DUE: 1/29/11 COMMENTS:	TES	ST	MODEL: 1	091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11
MFG: AMETEK SERIAL: M851680-2 MODEL: MOD CAL CERTIFICATION DUE: 1/29/11 COMMENTS:					N	SERIAL: (C19687		
MODEL: MOD CAL CERTIFICATION DUE: 1/29/11 COMMENTS:	USE	ED				CERTIFIC	ATION DU	E: 6/23/11	
COMMENTS:						SERIAL: I	V1851680-2		
The state of the s	•	000-11-7-7-1-1-1-1-1-1-1	MODEL: N	AOD CAL		CERTIFIC	ATION DU	E: 1/29/11	
					· · · · ·				
Ceplace F. Ting - Totale	COMME	NTS:	· .		· · · · · · · · · · · · · · · · · · ·				
			(C#6)	uce Fitt	- INT	a.Z.C.			
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SIGNAL SIGNAL SIG	NDICATOR AS LEFT							
MODEL#: 1151L/T 0-40" H₂O = 4-20 mA	AS LEFT							
SERIAL#: 1983834 TAG#: LT-101 LOCATION: KILN 1 SCRUBBER TANK TEST IDEAL INPUT SIGNAL S	AS LEFT							
TAG综. LT-101 LOCATION: KILN 1 SCRUBBER TANK TEST IDEAL INPUT	AS LEFT							
TEST IDEAL INPUT SIGNAL IDEAL OUTPUT AS LEFT INDICATOR IND	AS LEFT							
TEST IDEAL INPUT SIGNAL IDEAL OUTPUT AS LEFT INDICATOR IND	AS LEFT							
INPUT SIGNAL SI	AS LEFT							
2 10"H ₂ O 10 8.00mA 60 5.00 10"H ₂ O 5.00 3 20"H ₂ O 20 12.00mA 7.00 12.00 20 20"H ₂ O 20"H ₂ O 20"H ₂ O 30 16.00mA 60 00 20.00 40"H ₂ O 30"H ₂ O 30 16.00mA 60 00 20.00 40"H ₂ O 40 20.00mA 60 00 20.00 40"H ₂ O 40"H ₂ O 40 10 10 10 10 10 10 10 10 10 10 10 10 10								
3 20"H ₂ O 20 12.00mA 17.00 12.00 20 14.00 20 4 30"H ₂ O 30 16.00mA 16.00mA 16.00 30"H ₂ O 30"H ₂ O 30"H ₂ O 30"H ₂ O 30"H ₂ O 30"H ₂ O 30"H ₂ O 30"H ₂ O 40"H								
4 30"H ₂ O 30 16.00mA 6 0 16 0 30"H ₂ O 30"H ₂ O 5 40"H ₂ O 40 20.00mA 20 0 20.00 40"H ₂ O 40 20.00mA 20 0 20.00 40"H ₂ O 40"H ₂	7 O							
5 40"H₂O 40 20.00mA 20.00 20.00 40"H₂O 40"H								
CALIBRATION DATE: S INSTRUMENT TECHNICIAN: S SERIAL: 6599902 C 19004 TEST MODEL: 1091/1091 CERTIFICATION DUE: 3/25/11 4 EQUIPMENT MFG: TRANSMATION SERIAL: 8467002 USED MODEL: SD0312G CERTIFICATION DUE: 10/28/11	2.3							
MFG: TRANSMATION SERIAL: 6599902/C19004 TEST MODEL: 1091/1091 CERTIFICATION DUE: 3/25/11 4 EQUIPMENT MFG: TRANSMATION SERIAL: 8467002 USED MODEL: SD0312G CERTIFICATION DUE: 10/28/11	40							
TEST MODEL: 1091/1091 CERTIFICATION DUE: 3/25/11 4 EQUIPMENT MFG: TRANSMATION SERIAL: 8467002 USED MODEL: SD0312G CERTIFICATION DUE: 10/28/11	N. W.							
EQUIPMENT MFG: TRANSMATION SERIAL: 8467002 USED MODEL: SD0312G CERTIFICATION DUE: 10/28/11	MFG: TRANSMATION SERIAL: 6599902/C19004							
USED MODEL: SD0312G CERTIFICATION DUE: 10/28/11	/27/11							
MODEL: SÓ0412G CERTIFICATION DUE: 9/30/11								
DRIFT ACCEPTANCE: +/- 4-9"H2O	·							
COMMENTS:								
	İ							

	INST	RUME	NT CAL	.IBRAT	ION D	ata sh	EET	
NAME: I	KILN 1 BA	GHOUSE	DIFFERE	NTIAL PF	RESSURE			
MFG: R	OSEMOU	VT						
MODEL	然: 1151 D/	P 0-15" F	1 ₂ O = 4-20	mA				
SERIAL	#: 147479t	0						
TAG#: E	PT-4303		***					
LOCATI	ON: KILN	1 MCC BI	LOCK HO	USE				
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	- 0"H₂O	0	4.00mA	4,00	400	0"H2O	a	O)
2	3.75"H ₂ O	3.75	8.00mA	8.20	K-02	3.75"H ₂ O	375	3 3)
3	7.5"H ₂ O	7.5	12.00mA	FLOO	12,40	7,5"H ₂ O	7.5	7.5
Ą	11.25"H ₂ O	11.25	16.00mA	is o	15.00	11.25"H ₂ O	11.25	11.25
5	15.0"H ₂ O	15.0	20.00mA	10.00	1000	15.0"H ₂ O	15.0	15.0
CALIBRA	TAG NOITA	E: //s/		INSTRU	MENT TEC	HNICIAN:	Stran	
		MFG: TRA	NSMATIO	N	R	659990 <u>2</u> /C	B1	
TE:	ST	MODEL: 1	1091/1091		CERTIFIC	DO NOITA	E: 3/25/11	4/27/11
EQUIP	MENT	MFG: TRA	NSMATIO	N	SERIAL:	8467002		
US	ED	MODEL: S	SD0312G		CERTIFIC	CATION DU	E: 10/28/1	1
		MFG: TRA	ANSMATIC	N	SERIAL:	97851101		
		MODEL/S	SD0412G		CERTIFIC	CATION DU	E: 9/30/11	
		· ·					*	· · · · · · · · · · · · · · · · · · ·
COMMI	ENTS:						<u> </u>	
October 1								
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k Tamaing Lines								

NAME: STACK GAS FLOW METER KILN #1
MFG: FCI
MODEL#: GF90
SERIAL#: 244110A
CERT. DUE: 5/11
TAG#: FT-5555
LOCATION: KILN 1 MCC
METER READING FIELD: 38. チン n SCチ☆
METER READING CONTROL ROOM: 3 9.730 SCF M
METER READING DIFFERENCE: 1 0
VISUAL INSPECTION (STACK): 993
VISUAL INSPECTION (ELECTRONICS): Vess
DATE: 1 / 3 / 17
·
INSTRUMENT TECHNICIAN: Huffman
INSTRUMENT TECHNICIAN: Huffman DRIFT ACCEPTANCE +/- 5%
DRIFT ACCEPTANCE +/- 5%
DRIFT ACCEPTANCE +/- 5% COMMENTS:
DRIFT ACCEPTANCE +/- 5% COMMENTS: QUARTERLY CLEANINGS:
DRIFT ACCEPTANCE +/- 5% COMMENTS: QUARTERLY CLEANINGS: MARCH
DRIFT ACCEPTANCE +/- 5% COMMENTS: QUARTERLY CLEANINGS: MARCH JUNE
DRIFT ACCEPTANCE +/- 5% COMMENTS: QUARTERLY CLEANINGS: MARCH JUNE SEPTEMBER
DRIFT ACCEPTANCE +/- 5% COMMENTS: QUARTERLY CLEANINGS: MARCH JUNE SEPTEMBER
DRIFT ACCEPTANCE +/- 5% COMMENTS: QUARTERLY CLEANINGS: MARCH JUNE SEPTEMBER
DRIFT ACCEPTANCE +/- 5% COMMENTS: QUARTERLY CLEANINGS: MARCH JUNE SEPTEMBER
DRIFT ACCEPTANCE +/- 5% COMMENTS: QUARTERLY CLEANINGS: MARCH JUNE SEPTEMBER
DRIFT ACCEPTANCE +/- 5% COMMENTS: QUARTERLY CLEANINGS: MARCH JUNE SEPTEMBER

INSTRUMENT CALIBRATION DATA SHEET									
NAME: KILN 1 SCRUBBER DUCON DIFFERENTIAL PRESSURE									
MFG: ROSEMOUNT									
		· · · · · · · · · · · · · · · · · · ·	l ₂ O = 4-20	ı mA					
	#: 224659		120 - 7 20	1158					
	PT-4402								
		JBBER PI	LATFORN						
TEST POINTS	IDEAL INPUT SIGNAL	AÇTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT	
1	0"H2O	0	4.00mA	4.00	V/.C0	0"H2O	O	0'	
2	2.5"H ₂ O	2.5	8.00mA	8.00	100	2.5"H ₂ O	2.5	2.5	
3	5.0"H ₂ O	5.0	12.00mA	12.00	12.00	5.0"H ₂ O	50	· 5.0	
4	7.5"H ₂ O	7.5	16.00mA	16.00	1600	7.5"H ₂ O	7.5	7.5	
5	10.0"H ₂ O	10.0	20.00mA	100	10.cu	10.0"H₂O	100	10.0	
CALIBRATION DATE: 1/6 11 INSTRUMENT TECHNICIAN: 57 VA^ +									
MFG: TRANSMATION SERIAL: 6599902/C19004									
TES	ST	MODEL: 1	1091/1091		CERTIFIC	CATION DU	É: 3/25/11	4/27/11	
EQUIP	MENT	MFG: TRA	OITAMENA	N	SERIAL:	8467002			
USI	ED	MODEL: S	SD0312G		CERTIFIC	CATION DU	IE: 10/28/1	1	
		MFG: TRA	ANSMAŢĮC	N	SERIAL:	97851101			
	41-51	MODEL/S	SD0412G		CERTIFIC	CATION DL	JE: 9/30/11		
COMME	ENTS:								
t.									

INSTRUMENT CALIBRATION DATA SHEET									
NAME: KILN 1 HOOD PRESSURE ****BACK****									
	MFG: ROSEMOUNT								
MODEL	MODEL#: 1151 D/P -2.0" - 1.0" H ₂ O = 4-20 mA								
SERIAL#: 2362274									
TAG#: DPT-5550									
LOCATI	ON: K1 M		NE GROL		L (north)	·			
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND		IDEAL INDICATOR		INDICATOR AS LEFT	
1	-2.00"H2O	-2.00	4.00mA	4,00	り。魚	-2.00"H2O	13.3 5	-2.00	
2	-1.25"H2O	-1.25	8.00mA	R.00	8.40	-1.25"H2O	-1.25	-1.25	
3	-0.50"H2O	-0.50	12.00mA	n. 00	12.00	-0.50"H2O		50	
4	0.25"H2O	0.25	16.00mA	1600	1600	0.25"H2O	. 25	,75	
5	1.00"H2O	1.00	20.00mA	20 00	2000	1.00"H2O	1:00	1.00	
CALIBRATION DATE: 1/6/11 INSTRUMENT TECHNICIAN: STUMMENT									
MFG: TRANSMATION SERIAL: 6599902/C19004)									
TES	ST	MODEL: 1	091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11	
EQUIP			NSMATIO	N	SERIAL: 8		· · · ·		
USI	ED	MODEL: 9		······································		ATION DU	E: 10/28/1	1	
			MSMATIC	N	SERIAL: 9				
		MODÉL: S			CERTIFIC	ATION DU	IE: 9/30/11		
	ACCEPTA	NCE: +/F	0.25" H ₂ O						
COMME	ENTS:					<u>.</u>			
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	INST	RUME	nt cai	_IBRAT	ION D	ata sh		
NAME: KILN 1 SCRUBBER VENTURI DIFFERENTIAL PRESSURE								
MFG: ROSEMOUNT								
MODEL	斧: 1151 D	/P 0-10" F	12O = 4-20) mA				
SERIAL	#: 111108	7			- 11.			
TAG#: DPT-4401								
LOCATI	LOCATION: SCRUBBER PLATFORM							
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H2O	0	4.00mA	4.00	1.600	0"H2O	0	0
2	2.5"H ₂ O	2.5	8.00mA	5/,00	\$. 05 :	2.5"H ₂ O	2.5	2.5
3	5.0"H₂O	5.0	12.00mA	1/2 -00	12 au	5.0"H ₂ O	5.0	56
4	7.5"H ₂ O	7.5	16.00mA	1600	修動	7.5"H ₂ O	7,5	7.5
5	10.0"H ₂ O	10.0	20.00mA	<u> </u>	20.00	10.0"H ₂ O	10.0	10.0
CALIBRATION DATE: [6 1] INSTRUMENT TECHNICIAN: Great								
	MFG: TRANSMATION SERIAL: 6599902/C19004)							
TES	- '''	MODEL: 1	091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11
EQUIPI	•	MFG: TRA		N	SERIAL: 8	3467002		
US	ED	MODEL: S	D0312G		CERTIFIC	ATION DU	E: 10/28/11	
			NSMATIO	N	SERIAL: 9	7851101		
	PS(**daxAuhubupu	MODEL			CERTIFIC	ATION DU	E: 9/30/11	
	CCEPTA	NCE: +/- (0.5" H ₂ O					·
COMME	NTS:	 :						
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	inst	RUME	NT CAI	LIBRAT	TION D	ata sh	HEET	
NAME:	KILN 1 HE	EAT EXCH	IANGER [DIFFEREN	ITIAL PRI	ESSURE		
1	OSEMOU	· · · · · · · · · · · · · · · · · · ·					· · · · · · · · · · · · · · · · · · ·	
MODEL	#: 1151 D	/P 0-6" H:	₂ O = 4-20	mA	7			
SERIAL	#: 19 <mark>6</mark> 857	7						
TAG#: [)PT-4301							
LOCATI		OF HEAT	EXCHAN	IGER				
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0"H2O	0	4.00mA	4.00	4.0	0"H2O	Very and	Ĉ
2	1.5"H₂O	1.5	8.00mA	8-00	2.00	1.5"H ₂ O	15	2.5
3	3.0"H₂O	3.0	12.00mA	12,00	12.00	3.0"H₂O	30	3.0
4	4.5"H ₂ O	4.5	16.00mA	1529	1600	4.5"H ₂ O	\$4.1°	4.1 \$
5	6.0"H ₂ O	6.0	20.00mA	29,00	7000	6.0"H ₂ O	50	5.0
CALIBRATION DATE: 1/7/11 INSTRUMENT TECHNICIAN: STUDET								
	MFG: TRANSMATION SERIAL: 6599902/C19004)							
TES		MODEL: 1	091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11
EQUIP		MFG: TRA		N	SERIAL: 8	467002		
USE	Đ	MODEL: S			CERTIFIC	ATION DU	E: 10/28/11	
		MFG: TRA	<u> </u>	N	SERIAL: 9			
	2011 77	MODEL: S	D0412G		CERTIFIC	ATION DU	E: 9/30/11	
COMME	NTS:	· · · · · · · · · · · · · · · · · · ·	·····				·	··-
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NORLITE CORPORATION INSTRUMENT CALIBRATION DATA SHEET NAME: KILN 1 BAGHOUSE LEAK DETECTOR CHECK MFG: BHA MODEL#: CPM750 SERIAL於750395 TAG終PD-1000 RANGE: 0-100% LOCATION: CEM PROBE DECK **CLEANED SIGHT TUBES** YES NO NO **CLEANED TRANSMITTER LENS** YES **CLEANED RECEIVER LENS** YES NO YES NO AIR INLET CLEAR **MAINTENANCE LIGHTS** YES NO STVATT INSTRUMENT TECHNICIAN: **CALIBRATION DATE:** COMMENTS:



44.2

INSTRUMENT CALIBRATION DATA SHEET										
NAME:	NAME: KILN 1 SCRUBBER BLOWDOWN FLOW RATE									
MFG: F	ISHER PO	ORTER		95W	038438	12	[u			
METER	METER MODEL#: 10D1475, 1" SERIAL# 99W003139 DUE:12/10									
CONVERTER MODEL#: 50XM13BXKD10AAAC224, SERIAL# 92W442690										
TAG#: FT-1508 0-50 GPM										
LOCATION: RECIRCULATION TANK AREA										
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT		
1	0 GPM	0.0 m/s	4.00mA	4.00	400	0 GPM	Ĵ	O		
2	12.5 GPM	23.7 m/s	8.00mA	8:00	8.00	12.5 GPM	2	12,5		
3	25.0 GPM	47.3 m/s	12.00mA	11.00	11, a, a	25.0 GPM		74,9		
4		70.9 m/s		3 34 60	16.00	37.5 GPM		37.5		
5	50.0 GPM	94.6 m/s	20.00mA		2000	50.0 GPM	STATE OF STREET	30.Q		
CALIBRA	ATION DAT	E:) (94		INSTRUI	VIENT TEC	HNICIAN:	STUB	NT.		
		MFG. FIS	HER PORT	ER	SERIAL: 2	¥0097080/	Y011			
TE	ST	MODEL: 5	5XC4		CERTIFIC	UDVOITA	É: 6/22/11			
EQUIP		MFG: FLU			SERIAL: 9	56500114	···			
USI	ΞD	MODEL/8			CERTIFIC	ATION DU	E: 6/23/11			
		MFG: FLU		· · · · · · · · · · · · · · · · · · ·	SERIAL: 1					
		MODEL: 7			CERTIFIC	ATION DU	E: 7/26/11			
	ACCEPTA	NCE: +/- 8	5.0 GPM							
COMME	NTS:	····	 					·		
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1140 I I TOMETA I CALIDINATION DATA SITECT									
NAME:	NAME: KILN 1 SCRUBBER RECIRCULATION FLOW RATE "A"								
MFG: F	MFG: FISHER PORTER 93W 034753 12/11								
METER	METER MODEL#: 10D1475, 4" SERIAL# 92W442658 DUE:12/10								
CONVE	CONVERTER MODEL#: 50XM13BXKD10AABC224, SERIAL# 93W034754								
TAG#:	TAG#: FT-4403A 0-250 GPM								
LOCATI	LOCATION: RECIRCULATION TANK AREA								
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT	
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	Ö	Ô	
2	62.5 GPM	5.9 m/s	8.00mA	7.97	7.97	62.5 GPM	61.1	611	
3	125 GPM	11.8 m/s		11.95	11.95	125 GPM	124 3	1243	
4	187.5 GPM		16.00mA	11.93	11.93	187.5 GPM	186.2	186.3	
5	250 GPM	23.7 m/s	20.00mA	१व. ५ ह	। य. ० ४	250 GPM	244.8	249.8	
CALIBRATION DATE: 104 INSTRUMENT TECHNICIAN: 5 TURIS									
		MFG: FISI	HER PORT	ER	SERIAL: 2	40097080/	Y014		
TES		MODEL: 5	5XC4		CERTIFIC	ATION DUE	E: 6/22/11		
EQUIPI		MFG: FLU			SERIAL: 9	56500114			
ÜSE	Į	MODEL: 8	<						
	}	MFG: FLU		SERIAL: 13930061					
		MODEL: 7			CERTIFIC	ATION DUE	E: 7/26/11		
	CCEPTAN	NCE: +/- 1	0 GPM						
COMME	NIS:				· · · · · · · · · · · · · · · · · · ·		:		
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NAME: KILN 1 SCRUBBER RECIRCULATION FLOW RATE "B" MFG: FISHER PORTER 92 \(\times \text{ 4949 7 8} \) METER MODEL#: 10D1475, 4" SERIAL# 92W442667 DUE: 12/11 CONVERTER MODEL#: 50XM13BXKD10AAAC224, SERIAL# 93W013335 TAG#: FT-4403B				11 VAL						
METER MODEL#: 10D1475, 4" SERIAL# 92W442657 DUE:12/10 12 11 CONVERTER MODEL#: 50XM13BXKD10AAAC224, SERIAL# 93W013335 TAG#: FT-4403B	NAME: I	KILN 1 SC	RUBBER	RECIRCU	JLATION	FLOW RA	ATE "B"			
METER MODEL#: 10D1475, 4 SERIAL# 92W-1250 DOCUMENTER MODEL#: 50XM13BXKD10AAAC224, SERIAL# 93W013335 TAG#: FT-4403B	MFG: FI									
TAG#: FT-4403B	METER	MODEL#:	10D1475,	4" SER	IAL# 92\	442657	DUE:1 2/1 t			
TEST IDEAL ACTUAL IDEAL INPUT SIGNAL	CONVE	RTER MOI			D10AAAC	224, SEF	RIAL# 93W	013335		
TEST IDEAL NPUT SIGNAL OUTPUT AS OUTPUT AS LEFT INDICATOR INDICATOR AS FOUND AS LEFT										
TEST INPUT SIGNAL SIGN	LOCATI	ON: RECI	RCULATI	ON TANK	AREA			<u></u>		
2 62.5 GPM 5.9 m/s 8.00mA \$.02 8.07 62.5 GPM 63.2 63.2 3 125 GPM 11.8 m/s 12.00mA 12.07 12.07 125 GPM 126.5 126.5 4 187.5 GPM 17.7 m/s 16.00mA 16.10 187.5 GPM 126.5 126.5 5 250 GPM 23.7 m/s 20.00mA 20.11 250 GPM 25.3 (25.3) CALIBRATION DATE: 1 04 1 INSTRUMENT TECHNICIAN: 97.407 TEST MODEL: 55XC4 CERTIFICATION DUE: 6/22/11 EQUIPMENT MFG: FLUKE SERIAL: 240097080/Y011/ USED MODEL: 87 CERTIFICATION DUE: 6/23/11 DRIFT ACCEPTANCE: +/- 10 GPM		INPUT	INPUT		AS		INDICATOR	AS FOUND	ASLEFT	
3 125 GPM 11.8 m/s 12.00mA 12.00 12.07 12.6 GPM 12.6.5 12.6.5 4 187.5 GPM 17.7 m/s 16.00mA 16.10 187.5 GPM 15.9.9 18.9.7 5 250 GPM 23.7 m/s 20.00mA 20.11 20.11 250 GPM 25.3 (25.3.1) CALIBRATION DATE: 1 04 1 INSTRUMENT TECHNICIAN: 97.04 25.3 (25.3.1) TEST MODEL: 55XC4 CERTIFICATION DUE: 6/22/11 EQUIPMENT MFG: FLUKE SERIAL: 956500114 USED MODEL: 87 CERTIFICATION DUE: 6/23/11 MFG: FLUKE SERIAL: 13930061 MODEL: 77 CERTIFICATION DUE: 7/26/11	1	0 GPM	0.0 m/s	4.00mA						
4 187.5 GPM 17.7 m/s 16.00mA 16.10 187.5 GPM 15.9 189.9 5 250 GPM 23.7 m/s 20.00mA 20.11 20.11 250 GPM 25.8 (25.5.1 25.1 250 GPM 25.8 (25.5.1 250 GPM 25.	2	62.5 GPM	5.9 m/s	8.00mA	8.02			92 1		
5 250 GPM 23.7 m/s 20.00mA 20.1\ 20.1\ 250 GPM 253 \ 2	3	125 GPM	11.8 m/s	12.00mA	12-07					
CALIBRATION DATE: 1 04 INSTRUMENT TECHNICIAN: 97 UP INSTRU	4	187.5 GPM	17.7 m/s	16.00mA	16-10	16.10	.}			
MFG: FISHER PORTER SERIAL: 240097080/Y011 CERTIFICATION DUE: 6/22/11 EQUIPMENT MFG: FLUKE SERIAL: 956500114 USED MODEL: 87 CERTIFICATION DUE: 6/23/11 MFG: FLUKE SERIAL: 13930061 MFG: FLUKE SERIAL: 13930061 MODEL: 77 CERTIFICATION DUE: 7/26/11 DRIFT ACCEPTANCE: +/- 10 GPM	5	250 GPM	23.7 m/s	20.00mA	20.11	20.1	250 GPM		l'a de la companya de la companya de la companya de la companya de la companya de la companya de la companya de	
TEST MODEL: 55XC4 CERTIFICATION DUE: 6/22/11 EQUIPMENT MFG: FLUKE SERIAL: 956500114 USED MODEL: 87 CERTIFICATION DUE: 6/23/11 MFG: FLUKE SERIAL: 13930061 MODEL: 77 CERTIFICATION DUE: 7/26/11 DRIFT ACCEPTANCE: +/- 10 GPM	CALIBRA	ATION DAT	E: 100	emant's	INSTRU		- Santon and a santon	The street of 1	Tyl	
EQUIPMENT MFG: FLUKE SERIAL: 956500114 USED MODEL: 87 CERTIFICATION DUE: 6/23/11 MFG: FLUKE SERIAL: 13930061 MODEL: 77 CERTIFICATION DUE: 7/26/11 DRIFT ACCEPTANCE: +/- 10 GPM			MFG: FIS	HER POR	TER	1				
USED MODEL: 87 CERTIFICATION DUE: 6/23/11 MFG: FLUKE SERIAL: 13930061 MODEL: 77 CERTIFICATION DUE: 7/26/11 DRIFT ACCEPTANCE: +/- 10 GPM	TE	ST	MODEL:	55XC4		1			· · · · · · · · · · · · · · · · · · ·	
MFG: FLUKE SERIAL: 13930061 MODEL: 77 CERTIFICATION DUE: 7/26/11 DRIFT ACCEPTANCE: +/- 10 GPM	EQUIP	MENT	MFG: FL	ÎKE		1				
MODEL: 77 CERTIFICATION DUE: 7/26/11 DRIFT ACCEPTANCE: +/- 10 GPM	US	ED	MODĘĹ:	3 7				E: 6/23/11		
DRIFT ACCEPTANCE: +/- 10 GPM			MFG: FL	JKE					 	
						CERTIFI	CATION DU	JE: 7/26/11		
COMMENTS:	DRIFT	ACCEPTA	NCE: +/-	10 GPM						
	COMM	ENTS:								
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AECOM Environment

October 2010 Calibration Sheets

NORLITE CAL. SHEET CHECK LIST WWT

APPROVED BY:

TIM LACHELL

CALIBRATION TITLE	INSTRUMENT TITLE	SYSTEM PARAMETERS	DATE	TECHNICIAN
EFFLUENT DISCHARGE	FISCHER PORTER	0-80 GPM	10/4/2010	HUFFMAN
FLOW TO EFFLUENT TANK	FISCHER PORTER	0-80 GPM	10/4/2010	HUFFMAN
FLOC TANK PH "A"	ROSEMOUNT	PH	10/5/2010	STUART
FLOC TANK PH "B"	ROSEMOUNT	PH	10/5/2010	STUART
Pre EFFLUENT PH "A"	ROSEMOUNT	PH	10/5/2010	STUART
Pre EFFLUENT PH "B"	ROSEMOUNT	PH	10/5/2010	STUART
TRUNION WATER	FISCHER PORTER	0-80 GPM	10/4/2010	HUFFMAN
WASTE WATER EFF. TEMP.	ROSEMOUNT	32-212 DEG. F	10/5/2010	HUFFMAN
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NORLITE CORPORATION INSTRUMENT CALIBRATION DATA SHEET

INSTRUMENT CALIBRATION DATA SHEET									
NAME: I	LOW TO	EFFLUE	NT TANK			· · · · · · · · · · · · · · · · · · ·		<u></u>	
MFG: F	ISHER PO	ORTER	wd.en						
CONVE	RTER MO	DEL#: 50	XM13BXK	D10AAB0	224				
SERIAL	# 93W014	159							
TAG#:		0-80 GP	M						
LOCATI	ON: WW	T NORTH	WALL O'	VER DES	K				
1 'W' MIDLET MIDLET AC -							INDICATOR AS LEFT		
1	0 GPM	0.0 m/s	4.00mA	3.99	3.99	0 GPM	0	0	
2	20 GPM	1.26 m/s	8.00mA	8.02	8.02	20 GPM	20	20	
3	40 GPM	2.52 m/s	12.00mA	12.04	12.04	40 GPM	40	40	
4	60 GPM	3.78 m/s	16.00mA	16.05	16.05	60 GPM	60	60	
5	80 GPM	5.04 m/s	20.00mA	20.06	20.06	80 GPM	,80	80	
CALIBRA	ATION DAT	E: 10/4/10)	INSTRUI	MENT TEC	HNICIAN:	HUFFMA	pm	
		MFG: FISI	HER PORT	ER	SERIAL: 2	240097080	Y011		
TES	ST	MODEL: 5	5XC4		CERTIFIC	ATION DU	E: 6/22/11		
EQUIP	MENT	MFG: FLU	KE		SERIAL: 9	56500114			
USE	ΞD	MODEL(8	7)		CERTIFIC	ATION DU	E: 6/23/11		
		MFG: FLU	KE		SERIAL: 1	13930061			
		MODEL: 7	7	-	CERTIFIC	ATION DU	E: 7/26/11		
COMME	NTS:	,			·				
									
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NORLITE CORPORATION INSTRUMENT CALIBRATION DATA SHEET

	INSTRUMENT CALIBRATION DATA SHEET								
NAME:	TRUNION	WATER							
MFG: F	MFG: FISHER PORTER								
CONVE	RTER MC	DEL#: 100)1475SN1	2PL29KC	11011120) 1			
SERIAL	# 96W001	834			<u> </u>	·			
TAG#:	TAG#: 0-80 GPM								
LOCATI		OF EQ T	ANK	,		,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,	
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	INPUT OUTPUT AS OUTPUT IDEAL INDICATOR AS FOUND					INDICATOR AS LEFT	
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0	
2	20 GPM	0.76 m/s	8.00mA	8.01	8.01	20 GPM	20	20	
3	40 GPM	1.52 m/s	12.00mA	11.99	11.99	40 GPM	40	40	
4	60 GPM	2.28 m/s	16.00mA	16.00	16.00	60 GPM	60	60	
5	80 GPM	3.04 m/s	20.00mA	20.01	20.01	80 GPM	80	80	
CALIBRA	ATION DAT	TE: 10/4/10)	INSTRU	VIENT TEC	HNICIAN:	HUFFMAN	Jvvd	
		MFG: FIS	IER PORT	ER	SERIAL: 2	40097080/	Y011		
TES	ST	MODEL(5	5XC4	CERTIFICATION DUE: 6/22/11					
EQUIP	MENT	MFG: FLU	KE	SERIAL: 956500114					
USI	ΞD	MODE 8			CERTIFICATION DUE: 6/23/11				
·		MFG: FLU	KE		SERIAL: 13930061				
		MODEL: 7	7		CERTIFIC	ATION DU	E: 7/26/11		
COMME	NTS:								

NORLITE CORPORATION NSTRUMENT CALIBRATION DATA SHEET

	INSTRUMENT CALIBRATION DATA SHEET									
NAME:	NAME: EFFLUENT DISCHARGE TO MOHAWK									
MFG: F	MFG: FISHER PORTER									
CONVE	RTER MC	DEL#: 100	01475PN1	2PL29KD	11C1112	C1				
SERIAL	# 95W019	156								
TAG#:	0	-80 GPM								
LOCATI	ON: SOL	JTH WALL	OF WAS	TE WATE	R BUILD	ING				
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT		
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	Ó		
2	20 GPM	0.76 m/s	8.00mA	8.02	8.02	20 GPM	20	20		
3	40 GPM	1.52 m/s	12.00mA	12.00	12.00	40 GPM	40	40		
4	60 GPM	2.28 m/s	16.00mA	16.02	16.02	60 GPM	60	60		
5	80 GPM	3.04 m/s	20.00mA	20.00	20.00	80 GPM	80	80		
CALIBRA	TAD NOITA	ΓΕ: 10/4/10		INSTRU	MENT TEC	HNICIAN:	HUFFMAN	Mon		
		MFG: FISH	HER PORT	ER	SERIAL: 2	40097080/	Y011			
TES	ST	MODEL(5	5XC4		CERTIFIC	ATION DU	E: 6/22/11			
EQUIPI	MENT	MFG: FLU	KE.		SERIAL: 956500114					
USE	ĒD	MODEL(8	7)		CERTIFICATION DUE: 6/23/11					
,		MFG: FLU	 		SERIAL: 13930061					
		MODEL: 7	7		CERTIFIC	ATION DU	E: 7/26/11			
СОММЕ	ENTS:									
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INSTRUMENT CALIBRATION DATA SHEET

NAME: FLOC TANK PH "B"

MFG: ROSEMOUNT

MODEL#: 1054A PH

SERIAL#: E95-42946 TAG# AE4605B

RANGE: 0 - 14 PH = 4-20mA

LOCATION: ON THE FLOC TANK

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	4 7 74 4	INDICATOR AS LEFT
2	4.0 PH	4	8.6mA	8.60	8.60	4.0 PH	4.00	4.00
3	10.00 PH	10	15.5mA	14.92	15.50	10.00 PH	9.51	10.00

CALIBRATION DATE: 10/5/10

INSTRUMENT TECHNICIAN: STUART



COMMENTS:

USE BUFFER SOLUTIONS OF 4 AND 10

New gouse

INSTRUMENT CALIBRATION DATA SHEET

NAME: FLOC TANK PH "A"

MFG: ROSEMOUNT

MODEL#: 1054A PH SERIAL#: E95-42703 TAG# AE4605A

RANGE: 0 - 14 PH = 4-20mA

LOCATION: ON THE FLOC TANK

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
2	4.0 PH	4	8.6mA	8.47	8.60	4.0 PH	3.91	4.00
3	10.00 PH	10	15.5mA	15.72	15.50	10.00 PH	10.27	10.00

CALIBRATION DATE: 10/5/10 INSTRUMENT TECHNICIAN: STUART

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COMMENTS: USI

USE BUFFER SOLUTIONS OF 4 AND 10

INSTRUMENT CALIBRATION DATA SHEET

NAME: PRE EFFLUENT PH "B"

MFG: ROSEMOUNT

MODEL#: 1054A PH

SERIAL#: E95-41167 TAG# AE4613B

RANGE: 0 - 14 PH = 4-20mA

LOCATION: SOUTH WALL OF WASTE WATER BUILDING

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	4.0 PH	4	8.6mA	8.93	8.60	4.0 PH	4.31	4.00
3	10.00 PH	10	15.5mA	16.06	15.50	10.00 PH	10.54	10.00

CALIBRATION DATE: 10/5/10 INSTRUMENT TECHNICIAN: STUART

A Marie Contraction of the Contr

COMMENTS:

USE BUFFER SOLUTIONS OF 4 AND 10

INSTRUMENT CALIBRATION DATA SHEET

NAME: PRE EFFLUENT PH "A"

MFG: ROSEMOUNT

MODEL#: 1054A PH

SERIAL#: E95-42468 TAG# AE4613A

RANGE: 0 - 14 PH = 4-20mA

LOCATION: SOUTH WALL OF WASTE WATER BUILDING

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	4.0 PH	4	8.6mA	8.88	8.60	4.0 PH	4.28	4.00
3	10.00 PH	10	15.5mA	15.92	15.50	10.00 PH	10,42	10.00

CALIBRATION DATE: 10/5/10 INSTRUMENT TECHNICIAN: STUART

COMMENTS: USE BUFFER SOLUTIONS OF 4 AND 10

INSTRUMENT CALIBRATION DATA SHEET										
NAME:	NAME: WASTE WATER EFFLUENT TEMP.									
MFG: R	MFG: ROSEMOUNT									
MODEL#: 3044C DEG.(F) RTD										
SERIAL	#: 014340	02								
TAG#:	TT-4629									
LOCATI	ON: SOL	JTH WALL	WASTE	WATER E	BUILDING					
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT		
1	32 F	32	4.00mA	3.93	3,93	32 F	31	31		
2	77 F	77	8.00mA	7.94	7.94	77 F	76	76		
3	122 F	122	12.00mA	11.94	11.94	122 F	121	121		
4	167 F	167	16.00mA	15.93	15,93	167 F	166	166		
5	212 F	212	20.00mA	19.93	19,93	212F	,211	211		
CALIBRA	ATION DAT	E: 10/5/10)	INSTRUI	MENT TEC	HNICIAN: I	HUFFMÁN	J#1		
		MFG: MOI	DCAL		SERIAL: N	/1779640-4	•			
TES	ST	MODEK: 9	0K1		CERTIFIC	ATION DU	E: 1/29/11			
EQUIPI			SEMOUNT	·	SERIAL:					
USE	ED	MODEL: 2		ta en en en en en en en en en en en en en	CERTIFICATION DUE: NONE					
		MFG: NBS	RTDPR	OBE	SERIAL: 2285041					
		MODEL: 10	OC-86-100-	S-1-A-8-T	CERTIFICATION DUE: 7/9/11					
COMME	NTS:									

NORLITE CAL. SHEET CHECK LIST MISC.

APPROVED BY:

T.LACHELL

CALIBRATION TITLE	INSTRUMENT TITLE	SYSTEM PARAMETERS	DATE	TECHNICIAN
LIME FEEDERS	ACCURATE	1-500 LBS/HR	10/13/2010	STUART
LIME TAG# AC-101	AC-102 AC-103			
CEM	CISCO	O2 / COC / HRA	10/4/2010	HUFFMAN
PRIMARY AIR VENT (LEL)	MSA	20% - 30%	10/4/2010	HUFFMAN
O2 / LEL SENSORS	MSA		10/7/2010	HUFFMAN
QUARTERLY CAL.	(JAN.,APRIL,JULY,OCT.)	0-25 / 0-50		
FINISH PLANT PRESSURES	DWYER	0-15 "H2O	10/1/2010	HUFFMAN
FIRE PUMP TEST	JOSELYN CLARK	TEST RUN	10/8/2010	HUFFMAN
FUEL FARM VENT (O2)	SENSIDYNE	0-10 %	10/12/2010	DARLING
PUMP SEAL ALARM CHECK	ECHOTELL/UNITED ELECTRIC	PASS/FAIL	10/12/2010	DARLING
VORTEX FLOW METER	YOKOGAWA	INSPECTION	10/13/2010	STUART
				·
			-	
		172		
				·

NORLITE CORPORATION INSTRUMENT CALIBRATION DATA SHEET

NAME: PUMP SEAL ALARM CHECK

LOWER PAD TEST POINTS	PARAMETER	,	PUMP SEA	L CHECK		
			PASSED	FAILED		
TANK 3	LEVEL		Χ			
TANK 4	LEVEL	John Charle	Х			
TANK 5	LEVEL		Х			20 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
TANK 6	LEVEL		X .			
INSIDE TEST POINTS			PUMP SEA	L CHECK	:	
			PASSED	FAILED		
100A	LEVEL		Х		医气体 外面测量	EAST NAME
	PRESSURE	t na stranger (a. 1911) A transfer and stranger (a. 1911)	Х			
100B	LEVEL		Х		An area (Table)	
	PRESSURE		Х			en de la company
200A	LEVEL		Х			A TOPPIENT OF
	PRESSURE		Χ			
200B	LEVEL	· 李爾洛斯。	Х		are progression of	
	PRESSURE		X			N. E. Benerick
CALIBRATION DATE: 10/12/10			INSTRUMEN	IT TECHNICI	AN: Darling	3

COMMENTS:

NORLITE CORPORATION INSTRUMENT CALIBRATION DATA SHEET NAME: FUEL FARM VENT O2 MFG: SENSIDYNE MODEL#: SENSALERT SERIAL#: 102-207 PART# 7013276-2

SERIAL#: 102-207 PART# 7013276-2 LOCATION: SE CORNER OF LGF BUILDING							
TEST POINTS		O ₂	PASS	FAIL			
1	SPAN	7.05%	YES				
2							
CALIBRATION DA	NTE: 10/12/10	INSTRUMENT TE	ECHNICIAN: DARLIN	16 Darley			
CALIBRATION TI	ME: 7:05 am						
TEST	MFG: SENSIDYNE MODEL: SENSALE	RT	SERIAL: 102-207 CERTIFICATION DUE: NONE				
EQUIPMENT USED	MFG: MODEL:		SERIAL: CERTIFICATION DUE:				
	MFG: MODEL:		SERIAL: CERTIFICATION DUE:				
COMMENTS: In	stalled new sensor						

NORLITE CORPORATION INSTRUMENT CALIBRATION DATA SHEET

<u> </u>	/IE FEEDER	S					
MFG: ACC	URATE				.139	40	
RANGE: 2	25-500 LBS/	HR					
LOCATION	N: K2 MCC		TEST	MFG: AVO	MODEL: 3599	986	
TAG# AC-	101, AC-102	, AC-103	EQUIPMENT	SERIAL: 2097.206086			
			USED	CERTIFICATION	ON DUE: 7/26/1	11	
LIME FEEDER#	FEEDER SETTING	TARGET RPM	RPM HELIX DRIVE SHAFT	(RPM)(.139) = ft Displaced by 2.25 1/2 helix/hr	(40lbs) Bulk Density / ft Hydrated Lime	Target Weight	
11	300	54	54.03	7.51	300.4	300	
1	375	67.5	67.59	9.40	375.8	375	
1	450	81	81.23	11.29	451.6	450	
1	500	90	90,05	12.52	500.7	500	
2	300	54	53.96	7.50	300.0	300	
2	375	67.5	67.41	9.37	374.8	375	
2	450	81	80.92	11.25	449.9	450	
2	500	90	90.01	12.51	500.5	500	
3	300	54	53.97	7.50	300.1	300	
3	375	67.5	67.48	9.38	375.2	375	
3	450	81	81.09	11.27	450.9	450	
3	500	90	90.01	12.51	500.5	500	
CALIBRATIO	ON DATE: 10)/13/10	INSTRUMEN	T TECHNICIAN	l: Styart/Tom	masino	
COMMENT	COMMENTS: NO ADJUSTMENT NECESSARY IF WITHIN (+) OR (-) 5%						
**** KILN MUST BE ON USED OIL WHEN DOING THIS TEST ****							
			· · · · · · · · · · · · · · · · · · ·				
						A .	
						,	

	10/13/10	
NAME: VORTEX FLOW METER #1		
MFG: YOKOGAWA	FLOW METER READING:	232.3
MODEL#: DY	VISUAL INSPECTION:	YES
SERIAL#: 3353B031 2003		
CERT. DUE: 9/7/11		
TAG#: VF-101		
LOCATION: LIME SILO		
NAME: VORTEX FLOW METER #2		
MFG: YOKOGAWA	FLOW METER READING:	210.9
MODEL#: DY	VISUAL INSPECTION:	YES
SERIAL#: 3353B034 2003		
CERT. DUE: 8/14/11		
TAG#: VF-102		
LOCATION: LIME SILO		
NAME: VORTEX FLOW METER #3		
MFG: YOKOGAWA	FLOW METER READING:	221.2
MODEL#: DY	VISUAL INSPECTION:	YES
SERIAL#: 3353B032 2003		,
CERT. DUE: 8/3/11		
TAG#: VF-103		
LOCATION: LIME SILO		
	INSTRUMENT TECHNICIAN	: STUART
COMMENTS:		194

NORLITE CORPORATION INSTRUMENT CALIBRATION DATA SHEET

INSTRUMENT CALIBRATION DATA SHEET						
NAME: PRIMAR	Y AIR VENT SYSTI	EM -				
MFG: MSA						
MODEL#: 5000						
SERIAL#:						
LOCATION: OLD	OIL ROOM (unde	r K1)	'			
TEOT						
TEST		LEL (%)	PASS	FAIL		
POINTS						
1	ZERO	20%	YES			
2	SPAN	30%	YES	<i>-</i> 14		
CALIBRATION DA	ATE: 10/11/10	INSTRUMENT T	ECHNICIAN: Huffman	typna		
CALIBRATION TI	ME: 7:00 pm					
	MFG: MSA		SERIAL:			
TEST	MODEL: ULTIMA		CERTIFICATION DUE: NONE			
EQUIPMENT	MFG:		SERIAL:			
USED	MODEL:		CERTIFICATION DUE:			
	MFG:		SERIAL:			
	MODEL:		CERTIFICATION DU	CERTIFICATION DUE:		
COMMENTS:	RAN I-CAL PASS	ED				

		A CONTRACTOR OF THE CONTRACTOR		· · · · · · · · · · · · · · · · · · ·		
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NORLITE CORPORATION INSTRUMENT CALIBRATION DATA SHEET

NAME: CEM CALIBRATION

LOCATION: CEM BUILDING

K1A						
\times	O ₂	coc	HRA			
K1 obs	9.9	59	6			
CEM	10.1	62	6			

K2A								
O ₂ COC HRA								
K2 obs	9.9	64	37					
CEM 9.9 66 36								

CALIBRATION DATE: 10/4/10	INSTRUMENT TECHNICIAN: HUFFMAN
NOTE: USE CALIBRATION GAS	OF 50 ppm CO AND 10% O ₂
COMMENTS:	
•	
**	

	MONTHLY FIRE PUMP TEST - OPERATING PROCEDURE (0/8/10
Frequer	1. Monthly for 15 minutes. Lonis Huffingh 4 Hypen
2 / COMO!	
<u>Notifica</u> ह्य	1. Inform Safety, Kiln Supervisor, kiln #1 and #2 control room operators, fuel farm operator, and 22777 277
Necessa	The surv Items Radio, keys for fire suppression equipment, hearing protection. 33 9 33 9 5 y fem ## #76 -002-86
	Radio, keys for fire suppression equipment, hearing protection. $#76-002-86$
	inspections Add on processing
	 Check level of water in batteries (distilled). Add as necessary. Check level of antifreeze in radiator. Add as necessary. Check level of oil in diesel engine at dip stick. Service as needed/ once every 6 months. Last service date:
当 包 Manual	of room, next to water tank. 6. Check water temperature gauge on diesel engine for overheating heaters. 7. Jock dy pamp in Anto Inspection/Operation
ឲ_	1. Unlock and open Joselyn Clark control panel.
ĠŹ,	2. Hold STOP button in (located on outside right side) while turning selector knob from AUTO to OFF.
	3. Release STOP button (low pressure light comes on).
ď	4. Turn selector know to MANUAL 1 (to begin test for battery #1).
ष्	 All employees will put on hearing protection. Press start button located inside control panel (fire alarm lights only will activate). Low oil pressure light will go off. Motor pump will start. Ampmeters will discharge then charge to 14-15 amps (control panel).
	6. Allow pump to run for 5 minutes. While running, check for water drainage outside building.
	7. Turn SELECTOR knob to OFF. Turn SELECTOR knob to MANUAL 2 (to begin test for battery #2).
	8. Press START button located inside control panel. Motor pump will start.
	9. Allow pump to run for 5 minutes. While running, check for water drainage outside building.
Ó	10. Turn SELECTOR knob to off. Turn SELECTOR knob to AUTO.
	11. Close and lock Joselyn Clark control panel.
	12. Go to Utility building Motor Control Center, unlock center blue fire panel.
©	13. Depress RESET LAMP TEST (left button). This will reset the fire pump run alarm.
1	14. Close and lock center blue fire control panel
	15. Notify Safety, Kiln Supervisor Kiln #1 & #2 control room operators, fuel farm operator and control to that test is complete 1-800-624-277.
	Ando dialex -code-1234-1

INSTRUMENT CALIBRATION DATA SHEET

L. Hoffm

MSA CALIBRATIONS

TECHNICIAN HUFFMAN

		TES OF					TIOT I WAY	
SENSOR	SENSOR	SENSOR	DATE	AS FO		AS LE		Oxygen sensor
TYPE	NUMBER	AREA	CAL'D	zero	span	zero	span	change date
LEL	1	SOLIDS REPRO.	10/6/10	6.2	47.2	0.0	50.0	
OXYGEN	1A	N.W. WALL	10/6/10	-0.3	21.0	0.0	20.8	11/21/10
LEL	2	SOLIDS REPRO.	10/6/10	1.5	47.0	0.0	50.0	
OXYGEN	2A	S.E. WALL	10/6/10	0.0	20.5	0.0	20,8	11/22/10
LEL	3	LGF BLDG. ACROSS	10/6/10	3,9	46.5	0.0	50.0	
OXYGEN	3A	FROM PANELVIEW	10/6/10	-0.3	20.5	0.0	20.8	05/29/07
LEL	4	LGF BLDG, N.W.	10/6/10	3.5	46.5	0.0	50.0	
OXYGEN	4 A	CORNER	10/6/10	-0.2	20.1	0.0	20.8	08/17/10
LEL	5	LGF BLDG.N.E.	10/6/10	6.0	47.3	0.0	50.0	
OXYGEN	5A	CORNER	10/6/10	0.0	20.8	0.0	20.8	09/24/09
LEL	6	LGF BLDG, \$.W.	10/6/10	1,6	47.4	0.0	50.0	
OXYGEN	6A	CORNER	10/6/10	0.0	20,8	0.0	20.8	11/21/10
LEL	7	LGF BLDG, S.E.	10/6/10	1.8	47.6	0.0	50.0	
OXYGEN	7A	CORNER	10/6/10	0,0	19.9	0.0	20.8	06/07/10
LEL	8	NORTH TUNNEL	10/7/10	5.4	47.2	0.0	50.0	
OXYGEN	8A	DOOR	10/7/10	0.0	20.6	0.0	20,8	01/02/10
LEL	9	NORTH TUNNEL	10/7/10	4.7	50.5	0.0	50.0	
OXYGEN	9A	HATCH	10/7/10	0.0	20,8	0.0	20,8	05/30/10
LEL	10	SOUTH TUNNEL	10/7/10	5.3	50,2	0.0	50.0	
OXYGEN	10A	HATCH	10/7/10	-0.2	21.3	0.0	20.8	05/13/10
LEL	11	SOUTH TUNNEL	10/7/10	5.6	50.6	0.0	50.0	
OXYGEN	11A	DOOR	10/7/10	0,0	20.7	0.0	20.8	07/29/09
LEL	12	UPPER E.Q. EAST	10/7/10	2.2	50.6	0.0	50.0	
OXYGEN	12A	WALL	10/7/10	0.0	20.5	0.0	20.8	05/03/10
LEL	13	UPPER E.Q. WEST	10/7/10	3.3	50.2	0.0	50.0	
OXYGEN	13A	WALL .	10/7/10	0.0	20.1	0.0	20.8	10/25/09
LEL	14	LOWER E.Q. SOUTH	10/7/10	7.2	49.5	0.0	50.0	
OXYGEN	14A	WALL	10/7/10	0,0	20.6	0.0	20.8	04/23/07
LEL	15	LOWER E.Q. NORTH	10/7/10	4.6	51.0	0.0	50.0	
OXYGEN	15A	WALL	10/7/10	0.0	21.5	0.0	20.8	05/14/10
LEL ·	16	EXTRUDER ROOM.	10/7/10	2.7	48.3	0.0	50.0	
OXYGEN	16A	WEST WALL	10/7/10	0.0	21.6	0.0	20.8	11/24/10
LEL	17	K1 GAS ROOM	10/7/10	6.2	48.8	0.0	50.0	
OXYGEN	17A	III WIW II WOW	10/7/10	0.0	20.7	0.0	20.8	06/27/07

FINISH PLANT PRESSURES

UKES	2 H Mm
echnician :	f. Af Mm HUFFMAN

AREA	ZERO	LINE CONDITION	READINGS			DATE	
A) Photohelics	><		Н	LO	DP	COMMENTS	
1) MAIN BAGHOUSE	ОК	ОК	9.0	-9.5	0.0		10/1/2010
2) OVERSIZE HOPPER	ΟK	ок	0.0	-7.0	7.0		10/1/2010
3) STATIONARY BELT	ОК	ок	0.0	0.0	0.0		10/1/2010
4) RADIAL STACKER BELT	ок	ОК	0.0	0.0	0.0		10/1/2010
5) #2 BELT	OK	ОК	0.0	-8.0	-8.0		10/1/2010
6) TOP OF FINES SILO	ок	ОК	0.0	0.0	0.0	not in use	10/1/2010
7) SODA ASH SILO	ОК	ОК	0.0	0.0	0.0		10/1/2010
B) Magnehelics	\mathbb{N}		HI	LO	DP	COMMENTS	
1) EAST DUST SILO	ОК	OK	5.0	0.5	4.5		10/1/2010
2) WEST DUST SILO	ок	ОК	1.0	0.5	0.5		10/1/2010

NORLITE CAL. SHEET CHECK LIST K1

				APPROVED BY:	Tim Lachell
CALIBRATION TITLE	TAG#	INSTRUMENT TITLE	SYSTEM PARAMETERS	DATE	TECHNICIAN
BACK END GAS TEMP.	TT-4303	ROSEMOUNT 3044C	0-1400 F	10/6/2010.	Stuart
BAGHOUSE D/P	DPT-4303	ROSEMOUNT 1151 DP	0-15" H2O	10/8/2010	Stuart
BAGHOUSE INLET TEMP	TT-4302	ROSEMOUNT D5NAB4	0-700 F	10/6/2010	Stuart
BAGHOUSE LEAK DETECTOR	PD-1000	вна	0-100%	10/12/2010	Stuart
BLOWDOWN FLOW	FT-1508	FISCHER PORTER 10D1475	0-50 GPM	10/5/2010	Stuart
CAUSTIC FLOW	FT-4401	FISCHER PORTER 10D1475	0-40 GPM	10/5/2010	Stuart
EAST COOLER PRESSURE	PT-1205	ROSEMOUNT 1151 DP	0-15" H2O	10/7/2010	Stuart
HEAT EXCHANGER D/P	DPT-4301	ROSEMOUNT 1151 DP	0-6" H2O	10/8/2010	Stuart
HEAT EXCHANGER TEMP	TT-4301	ROSEMOUNT 3044P	0-700 F	10/6/2010	Stuart
HOOD PRESSURE **BACK** D/P	DPT-5550	ROSEMOUNT 1151 DP	(-2.0) - (+1.0)" H20	10/8/2010	Stuart
HOOD PRESSURE D/P	DPT-5203	ROSEMOUNT 1151 DP	(-2.0) - (+1.0)" H20	10/7/2010	Stuart
I.D. FAN CURRENT	IDF-4301	ABB (ACS 600)	0-500 AMPS	10/12/2010	Stuart
LGF ATOM. AIR PRESSURE	PT-9104	ROSEMOUNT 1151 DP	0-200 PSI	10/6/2010	Stuart
LGF FEED RATE	MM-4301	MICROMOTION DL100	0-20 GPM	10/12/2010	Darling
LGF PRESSURE	PT-9106	ROSEMOUNT 1151 DP	0-110 PSI	10/6/2010	Stuart
MULTICLONE D/P	DPT-4302	ROSEMOUNT 1151 DP	0-6" H2O	N/A	Stuart
NOZZLE WATER	MM-4302	MICROMOTION DS065	0-15 GPM	N/A	Stuart
PRIMARY AIR PRESSURE	PT-1108	ROSEMOUNT 1151 DP	0-60" H2O	10/7/2010	Stuart
SCRUBBER DUCON D/P	DPT-4402	ROSEMOUNT 1151 DP	0-10" H2O	10/8/2010	Stuart
SCRUBBER pH A	4401A	ROSEMOUNT 2081 pH	ρΗ	10/15/2010	Stuart
SCRUBBER pH B	4401B	ROSEMOUNT 2081 pH	Hq	10/15/2010	Stuart
SCRUBBER QUENCH TEMP.	TT-5103	ROSEMOUNT 3044	0-200 F	10/6/2010	Stuart
SCRUBBER RECIRC FLOW A	FT-4403A	FISCHER PORTER 10D1475	0-250 GPM	10/5/2010	Stuart
SCRUBBER RECIRC FLOW B	FT-4403B	FISCHER PORTER 10D1475	0-250 GPM	10/5/2010	Stuart
SCRUBBER TANK LEVEL	LT-101	ROSEMOUNT 1151 LT	0-40" H2O	10/8/2010	Stuart
SHALE FEED	AR-4301	ACCURATE MPC200	0-40 TPH	10/13/2010	Darling
SOLIDS ATOM AIR PRESSURE	PT-9105	ROSEMOUNT 1151 DP	0-200 PSI	10/6/2010	Stuart
STACK GAS FLOW	FT-5555	FCI GF90	0-86,000 scfm	10/14/2010	Stuart
VENTURI D/P	DPT-4401	ROSEMOUNT 1151 DP	0-10" H2O	10/8/2010	Stuart
WASTE OIL FEED RATE	MM-4303	MICROMOTION D\$100	0-20 GPM	10/12/2010	Darling
WEST COOLER PRESSURE	PT-5204	ROSEMOUNT 1151 DP	0-15" H2O	10/7/2010	Stuart

NAME: KILN 1 SHALE FEED RATE						
MFG: ACCURATE						
MODEL#: MPC 200		RICE LAKE SCALE	MODEL# IQ355			
SERIAL#: 3335 TA	AG# AR-4301	, , , , , , , , , , , , , , , , , , , ,	SERIAL# 145431			
RANGE: 0-40 TPH = 4-20	mA		CERT. DUE 9/11			
LOCATION: KILN 1 CONT	ROL ROOM, L	INDER SHALE SILO				
FIRST GRAB SAMPLE	· · · · · · · · · · · · · · · · · · ·	BUCKET#1				
GROSS WEIGHT	84.00 lbs	TARE WEIGHT	0,0 lbs			
NET WEIGHT	84.00 lbs	**				
SECOND GRAB SAMPLE		BUCKET#2				
GROSS WEIGHT	86.95 lbs	TARE WEIGHT	0.0 lbs			
NET WEIGHT	86.95 lbs					
THIRD GRAB SAMPLE		BUCKET#3				
GROSS WEIGHT	85.20 lbs	TARE WEIGHT	0.0 lbs			
NET WEIGHT	_85.20 lbs					
AVERAGE	TOTAL SCALE WE	IGHT <u>85.38 lbs</u>				
CUR	RENT SHALE SETF	POINT 16.00 TPH				
FIRST TACH READING	223.2 fpm	TACH	MODEL# 359986			
SECOND TACH READING	223.4 fpm		SERIAL# 2097.206086			
THIRD TACH READING	223.8 fpm		CERT. DUE: 7/26/11			
	AVERAGE TAC					
CALCULATE THE TP	H OF THE MATE	ERIAL TAKEN USING THIS	S FORMULA			
		/ LENGTH OF GRAB) (60) / 2				
(223.5 fpm) (85.38 lbs.						
IF THE TPH FROM THE TEST IS NOT WITHIN .5 TON OF THE CURRENT SETPOINT,						
THE EMPIRICAL SPAN MUST BE CHANGED. (menu #5)						
CALIBRATION DATE: 10/13/10 INSTRUMENT TECHNICIAN: Tommasino/Darling						
COMMENTS:						

NAME: KILN 1 LGF FEED RATE							
MFG: MICROMOTION							
MODEL#: DL-100S223 SU	RICE LAKE SCALE MODEL# IQ355						
SERIAL#: 12002014 TAG# MM-4	4301 SERIAL# 145431						
RANGE: 0-20 GPM = 4-20mA	CERT. DUE 9/11						
LOCATION: KILN 1 GAS ROOM	-						
FIRST GRAB SAMPLE	BUCKET#1						
GROSS WEIGHT 10.50	lbs TARE WEIGHT 0.0 lbs						
NET WEIGHT 10.50							
SECOND GRAB SAMPLE	BUCKET#2						
GROSS WEIGHT 9,80							
NET WEIGHT 9,80							
THIRD GRAB SAMPLE	BUCKET#3						
GROSS WEIGHT 10.40 NET WEIGHT 10.40							
the state of the s	ALE WEIGHT 10.23 lbs						
	ON TOTALIZER WEIGHTS						
1st GRAB <u>10.50 lbs</u> 2nd GRAB <u>9.70 lbs</u>							
3rd GRAB 10.40 lbs							
	ICROMOTION TOTALIZER WEIGHTS 10.20 lbs						
DISEBBLICE RETWISE	EN SCALE AVG. AND TOTALIZER AVG. 0.03 lbs						
DIFFERENCE BETWEE							
CALIBRATION DATE; 10/12/10	INSTRUMENT TECHNICIAN: Tommasino/Darling						
DRIFT ACCEPTANCE: +/- 1.0lbs	DRIFT ACCEPTANCE: +/- 1.0lbs						
COMMENTS:							

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100000000000000000000000000000000000000	The state of the s						

NAME: KILN 1 WASTE OIL	FEED F	RATE				
MFG: MICROMOTION						
MODEL#: DS100S128SU 9	50323		RICE LAKE SCALE	MODEL# IQ355		
SERIAL#: 183743 TA	G# MM-	4303		SERIAL# 145431		
RANGE: 0-20 GPM = 4-20	nΑ			CERT. DUE: 9/11		
LOCATION: KILN 1 GAS R	MOON					
FIRST GRAB SAMPLE			BUCKET #1			
GROSS WEIGHT	8.95	lbs	TARE WEIGHT	0.00 lbs		
NET WEIGHT	8.95	<u>ibs</u>				
SECOND GRAB SAMPLE			BUCKET#2			
GROSS WEIGHT	9.60	<u>lbs</u>	TARE WEIGHT	0.00 lbs		
NET WEIGHT	9.60	[bs				
THIRD GRAB SAMPLE			BUCKET#3			
GROSS WEIGHT	10.55	lbs	TARE WEIGHT	0.00 lbs		
NET WEIGHT	10.55	lbs				
AVERAGE	TOTAL SC	ALE WI	EIGHT 9.70 lbs			
MIC	ROMOTI	ONT	OTALIZER WEIGHTS			
1st GRAB <u>9.00 lbs</u>						
2nd GRAB 9.60 lbs						
3rd GRAB <u>10.60 lbs</u>						
A	VERAGE M	ICRON	NOTION TOTALIZER WEIGHTS	9.73 lbs		
DIFFERENC	CE BETWE	EN SC	ALE AVE, AND TOTALIZER AVE			
CALIBRATION DATE: 10/12/10 INSTRUMENT TECHNICIAN: Tommasino/Darling						
DRIFT ACCEPTANCE: +/- 1.0 lbs						
COMMENTS:						
		**	·	<u> </u>		
			- Carlondo - Carlondo			
				-		

NORLITE CORPORATION STRUMENT CALIBRATION DATA SHEET

INSTRUMENT CALIBRATION DATA SHEET								
NAME: KILN 1 MULTICLONE DIFFERENTIAL PRESSURE								
MFG: ROSEMOUNT								
MODEL#: 1151 D/P 0-6" H ₂ O = 4-20 mA								
SERIAL	#: 150117	1						<u></u>
TAG#: [PT-4302							
LOCATION: TOP OF HEAT EXCHANGER								
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H ₂ O	0	4.00mA			0"H2O		
2	1.5"H ₂ O	1.5	8.00mA			1.5"H ₂ O		
3	3.0"H ₂ O	3.0	12.00mA			3.0"H ₂ O		
4	4.5"H ₂ O	4.5	16.00mA			4.5"H ₂ O		
5	6.0"H ₂ O	6.0	20.00mA			6.0"H₂O		
CALIBRATION DATE: 10/10 INSTRUMENT TEC						HNICIAN:		
		MFG: TRANSMATION			SERIAL: 6599902/C19004			
TEST		MODEL: 1091/1091			CERTIFICATION DUE: 3/25/11 4/27/11			
EQUIPMENT		MFG: TRANSMATION			SERIAL: 8467002			
USED		MODEL: SD0312G			CERTIFICATION DUE: 10/28/11			
		MFG: TRANSMATION			SERIAL: 97851101			
This still the still sti		MODEL: SD0412G			CERTIFICATION DUE: 9/30/11			
COMME	ENTS: N/	'A wires re	moved					

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 NOZZLE WA	ATER		•
MFG: MICROMOTION			
MODEL#: DS065S113		RICE LAKE SCALE	MODEL# IQ355
SERIAL#: 160559 TAG	3# MM-43	02	SERIAL# 145431
RANGE: 0-15 GPM = 4-20n	nΑ		CERT. DUE: 9/11
LOCATION: KILN 1 GAS R	OOM		
FIRST GRAB SAMPLE	······	BUCKET#1	
GROSS WEIGHT	lb	s TARE WEIGHT	lbs
NET WEIGHT	<u>lb</u>	· <u>·</u>	
SECOND GRAB SAMPLE		BUCKET#2	
GROSS WEIGHT	lb	s TARE WEIGHT	lbs
NET WEIGHT	<u>dl</u>	<u>s</u> .	
THIRD GRAB SAMPLE		BUCKET#3	
GROSS WEIGHT	lb	s TARE WEIGHT	lbs
NET WEIGHT		<u>s</u>	
AVERAGE 1	TOTAL SCALE	WEIGHTlbs	
MICI	ROMOTION	TOTALIZER WEIGHTS	
1st GRAB <u>lbs</u>			
2nd GRAB lbs			
3rd GRAB lbs			
AV	ERAGE MICR	OMOTION TOTALIZER WEIGHTS	{lbs
DIFFERENC	E BETWEEN	SCALE AVE. AND TOTALIZER AVE	. lbs
CALIBRATION DATE: 10/10]	NSTRUMENT TECHNICIAN:	
COMMENTS: NOT CURREN	TLY IN USE		
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	· por	

	INST	RUME	NT CAL	IBRAT	ION D	ATA SH	IEET	
NAME:	KILN 1 CA	AUSTIC F	LOW RAT	E				
MFG: F	ISHER PO	ORTER						
METER	MODEL#	10D1475	, 1.5" SE	RIAL# 52	2733			
CONVE	RTER MC	DEL#: 50	XM13BXK	D10AABC	224, SEF	81AL# 93V	/014160	
TAG#:	FT-4401	0-40 GP	M					
LOCATION: RECIRCULATION TANK AREA								
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0
2	10 GPM	6.3 m/s	8.00mA	7.98	7.98	10 GPM	10	10
3	20 GPM	12.7 m/s	12.00mA	11.99	11.99	20 GPM	20	20
4	30 GPM	19.0 m/s	16.00mA	15.99	15.99	30 GPM	30	30
5	5 40 GPM 25.3 m/s 20.00mA 19.99 19.99 40 GPM 40 40							
CALIBRA	ATION DAT	E: 10/5/10)	INSTRU	MENT TEC	HNICIAN:	STUART	1/B
			HER PORT	ER	SERIAL: 2	40097080	Y011	V
TES	ST	غ <i>خ</i> اِMODE	5XC4		CERTIFIC	ATION DU	E: 6/22/11	
EQUIP	WENT	MFG: FLU	KE		SERIAL: 9	56500114		
USI	ΞD	MODEL. 8	7)		CERTIFIC	ATION DU	E: 6/23/11	
-		MFG: FLU	IKE		SERIAL: 1	3930061	· · · · · · · · · · · · · · · · · · ·	
		MODEL: 7	7		CERTIFIC	ATION DU	E: 7/26/11	
СОММЕ	ENTS:							
				· 				
:			· · · · · · · · · · · · · · · · · · ·					
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INSTRUMENT CALIBRATION DATA SHEET									
NAME:	KILN 1 SC	CRUBBER	BLOWD	OWN FLC	W RATE				
MFG: F	MFG: FISHER PORTER								
METER	MODEL#	10D1475	, 1" SER	IAL# 99W	003139	DUE:12/10)		
CONVE	RTER MC	DEL#: 50	XM13BXK	D10AAAC	224, SEF	RIAL# 92W	442690		
TAG#:	FT-1508	0-50 GP	M						
LOCATION: RECIRCULATION TANK AREA									
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT	
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0	
2	12.5 GPM	23.7 m/s	8.00mA	7.99	7.99	12.5 GPM	12.4	12.4	
3	25.0 GPM	47.3 m/s	12.00mA	11.99	11.99	25.0 GPM	25.1	25.1	
4	37.5 GPM	70.9 m/s	16.00mA	15.99	15.99	37.5 GPM	37.4	37.4	
5	5 50.0 GPM 94.6 m/s 20.00mA 19.99 19.99 50.0 GPM 50.0 50.0								
CALIBRA	ATION DAT	E: 10/5/10)	INSTRUI	MENT TEC	HNICIAN:	STUART	172	
		MFG: FIS	HER PORT	ER	SERIAL: 2	40097080/	Y011	1	
TES	ST	MODEL 5	5XC4		CERTIFIC	ATION DU	E: 6/22/11		
EQUIP	MENT	MFG: FLÛ	KE		SERIAL: 9	56500114			
USI	ΞD	MODE(: 8	7)		CERTIFIC	ATION DU	E: 6/23/11		
		MFG: FLU	KE		SERIAL: 1	3930061		· · · · · · · · · · · · · · · · · · ·	
		MODEL: 7	7		CERTIFIC	ATION DU	E: 7/26/11	W	
DRIFT A	ACCEPTA	NCE: +/- !	5.0 GPM						
COMME	NTS:								
						 			
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	INST	RUMEI	NT CAL	.IBRAT	ION D	ATA SH	EET	
NAME	KILN 1 SC	DURRER	RECIRCI	II ATION	FLOW RA	TF "A"		
	ISHER PO		TEORGE	JB (HOIL				
			4" SERI	AL# 92W	442658 E	DUE: 12/10)	
						IAL# 93W0		· · · · · · · · · · · · · · · · · · ·
	FT-4403A	0-250			····			
LOCATI	ON: RECI	RCULATI	ON TANK	AREA				
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0 GPM	0.0 m/s	0 m/s 4.00mA 3.99 3.99 0 GPM 0 0					
2	62.5 GPM	5.9 m/s	8.00mA	7.99	7.99	62.5 GPM	62.3	62.3
3	125 GPM	11.8 m/s	12.00mA	11.98	11.98	125 GPM	124.5	124.5
4	187.5 GPM	17.7 m/s	16.00mA	15.97	15.97	187.5 GPM	187.0	187.0
5	5 250 GPM 23.7 m/s 20.00mA 20.00 20.00 250 GPM 250.0 250.0							
CALIBRA	ATION DAT	E: 10/5/10		INSTRUI	MENT TEC	HNICIAN:	STUART	
		MFG: FIS	HER PORT	ER	SERIAL: 2	40097080/	Y011	J
TES	ST	MODEL	5XC4		CERTIFIC	ATION DU	E: 6/22/11	
EQUIP	MENT	MFG: FLU	IKE		SERIAL: 9	56500114		
USI	ΞD	MODEL	17)	,	CERTIFIC	ATION DU	E. 6/23/11	
		MFG: FLU	IKE	4	SERIAL: 1	3930061		
		MODEL: 7	7		CERTIFIC	ATION DU	E: 7/26/11	
DRIFT A	ACCEPTAI	NCE: +/- 1	0 GPM					
COMME	NTS:		····					
			 					
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	INST	RUMEI	NT CAL	IBRAT	ION D	ATA SH		
NAME:	KILN 1 SC	RUBBER	RECIRCU	JLATION	FLOW RA	TE "B"		
MFG: FISHER PORTER								
METER	MODEL#:	10D1475,	4" SER	AL# 92W	442657 [DUE:12/10		
CONVE	RTER MO	DEL#: 50)	KM13BXK	D10AAAC	224, SER	IAL# 93W0	13335	
TAG#:	FT-4403B	0-250 C	}PM					
LOCATION: RECIRCULATION TANK AREA								
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0
2	62.5 GPM	5.9 m/s	8.00mA	7.98	7.98	62.5 GPM	62.3	62.3
3	125 GPM	11.8 m/s	12.00mA	11.97	11.97	125 GPM	124.9	124.9
4	187.5 GPM	17.7 m/s	16.00mA	15.96	15.96	187.5 GPM	187.3	187.3
5	5 250 GPM 23.7 m/s 20.00mA 19.99 19.99 250 GPM 250.0 250.0							
CALIBRA	ATION DAT	E: 10/5/10	l.	INSTRUI	MENT TEC	HNICIAN:	STUART \	135
			IER PORT	ER	SERIAL: 2	40097080/	Y011	<u>U</u>
TES	ST	MODEL 5	5XC4	:	CERTIFIC	ATION DUE	E: 6/22/11	
EQUIPI	MENT	MFG: FLU	KE		SERIAL: 9	56500114	·	
USI	ΞD	MODEL: 8	7)	<u></u>	CERTIFIC	ATION DUE	E: 6/23/11	
		MFG: FLU	KE		SERIAL: 1	3930061		
		MODEL: 7	7		CERTIFIC	ATION DUE	E; 7/26/11	
DRIFT A	ACCEPTAI	NCE: +/-	10 GPM					
СОММЕ	ENTS:							
						··· , ·· · · <u>·</u> · ·		
				 				
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	IN5 I	KUWE	NI CAL	IBKA	ים אטו	AIA Sh		
NAME: I	KILN 1 SC	LIDS ATO	OITAZIMO	N AIR PR	ESSURE	a		
MFG: R	OSEMOÙ	NT						
MODEL	#: 1151 D	/P 0-200 I	PSI = 4-20) mA				
SERIAL	#: 155908	9						
TAG#: F	-1							
LOCATI	LOCATION: OUTSIDE KILN 1 CONTROL ROOM							
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0 PSI	0	4.00mA	4.00	4.00	0 PSI	0	0
2	50 PSI	50	8.00mA	8.00	8.00	50 PSI	50	50
. 3	100 PSI	100	12.00mA	12.00	12.00	100 PSI	100	100
4	150 PSI	150	16.00mA	16.00	16.00	150 PSI	150	150
5	200 PSI	200	20.00mA	20.00	20.00	200 PSI	200	200
CALIBRA	TAG NOITA	E: 10/6/10)	INSTRUI	VIENT TEC	HNICIAN:	STUART	1
		MFG: TRA	NSMATIO	N	SERIAL	599902/01	9004	4
TES	ST	MODEL: 1	091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11
EQUIPI	MENT		NSMATIO	N	SERIAL: (19687		
USI	ΞD	MODEL: S	S1410G	<u>></u>	CERTIFIC	ATION DU	E: 6/23/11	
		MFG: AM	ETEK		SERIAL: N	/ 1851680-2		
		MODEL: N	IOD CAL		CERTIFIC	ATION DU	E: 1/29/11	
							 	
COMME	ENTS:			·				
			· · · · · · · · · · · · · · · · · · ·					
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	INSI	KUMEI	VICAL	IDKAI	ION D	AIA SH			
NAME: I	(ILN 1 LG	F FEED L	INE PRES	SSURE					
MFG: R	DSEMOU	NT		·					
MODEL	#: 1151 D/	P 0-110 I	PSI = 4-20	mA					
SERIAL	# : 146701	0							
TAG#: F	T-9106								
LOCATI	ON: INSIE	DE KILN 1	GAS RO						
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT	
1	0 PSI	0	4.00mA	4.00	4.00	0 PSI	0.0	0.0	
2	27.5 PSI	27.5	8.00mA	8.00	8.00	27.5 PSI	27.5	27.5	
3	55 PSI	55	5 12.00mA 12.00 12.00 55 PSI 55.0 55.0						
4	82.5 PSI	82.5	16.00mA	16.00	16.00	82.5 PSI	82.5	82.5	
5	110 PSI	110	20.00mA	20.00	20.00	110 PSI	110.0	110.0	
CALIBRA	ATION DAT	E: 10/6/10	0	INSTRUI	MENT TEC	HNICIAN:	STUART	A Second	
		MFG: TRA	NSMATIO	N	SERIAL: 6	(5 <u>99902/</u> ©1	9004	U	
TES	ST	MODEL: 1	091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11	
EQUIP	MENT	MFG: TRA	NSMATIO	N	SERIAL: 0	19687			
USI	ED	MODEL	S1410G) :	CERTIFIC	ATION DU	E: 6/23/11		
		MFG: AMI	ETEK		SERIAL: I	//851680-2			
		MODEL: N	MOD CAL		CERTIFIC	ATION DU	E: 1/29/11		
DRIFT A	CCEPTA	NCE:= +/-	- 5 PSI						
COMME	NTS:								
		· · · · · · · · · · · · · · · · · · ·							
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	INST	RUME	NT CAL	_IBRAT	ION D	ATA SH	EET	
NIANTE I	CIN 1 I G	F ATOMIZ	ΖΑΤΙΟΝ Α	IR PRESS	SURF			
	OSEMOU		311101171			······································		, ve
		/P 0-200 l	PSI = 4-20) mA				
SERIAL#: 1486596								
TAG#: PT-9104								
LOCATION: OUTSIDE KILN 1 CONTROL ROOM								
TEST POINTS	TS SIGNAL SIGNAL OUTPUT FOUND AS LEFT INDICATOR AS FOUND AS LEFT							
1	0 PSI	0	4.00mA	4.00	4.00	0 PSI	0	0
2	50 PSI	50	8.00mA	8.00	8.00	50 PSI	50	50
3	100 PSI	100	12.00mA	12.00	12.00	100 PSI	100	100
4	150 PSI	150	16.00mA	16.00	16.00	150 PSI	150	150
5	200 PSI	200	20.00mA	20.00	20.00	200 PSI	200	200
CALIBRA	ATION DAT	ΓΕ: 10/6/10		INSTRUI	MENT TEC	HNICIAN:	STUART	H
		MFG: TRA	NSMATIO	N	SERIAL: 6	599902/C)1	9004	1
TES	SŤ	MODEL: 1	091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11
EQUIPI	VIENT	MFG: TRA	NSMATIQ	N	SERIAL: (19687		
USI	ΞD	MODEL:	S1410G	<u> </u>	CERTIFIC	ATION DU	E: 6/23/11	
		MFG: AMI	ETEK		SERIAL: N	/l851680-2		· · · · · · · · · · · · · · · · · · ·
		MODEL: N	NOD CAL	ı	CERTIFIC	ATION DU	E: 1/29/11	
СОММЕ	ENTS:			-				
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	11401	LO MILL	AI OMI		1014 0	AIA SI		
NAME:	K1 SCRU	BBER QU	ENCH TE	MP				
MFG: R	OSEMOL	JNT						,
MODEL	# : 3144 (0-200 DEC	6.(F) = 4-2	OmA TYF	PE K			
SERIAL	#: 05516 ²	18						
TAG#:	TT-5103							
LOCATI	ON: K1 N	/ICC						40-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 F	0	4.00mA	3.90	3.90	0 F	-3	-3
2	50 F	50	8.00mA	7.72	7.72	50 F	46	46
3	100 F	100	12.00mA	11.66	11.66	100 F	96	96
4	150 F	150	16.00mA	15.65	15.65	150 F	146	146
5	200 F	200	20.00mA	19.60	19.60	200F	195	195
CALIBRA	TION DAT	TE: 10/6/10)	INSTRUI	VIENT TEC	HNICIAN:	STUART	
		MFG: TRA	NSMATIO	N.	SERIALS	540201		
TES	ST	MODEL: 1	062 J/K		CERTIFIC	ATION DU	E: 1/29/11	
EQUIP	VIENT	MFG: RO	SEMOUNT		SERIAL:			
USE	ΕD	MODEL: 6	75		CERTIFIC	ATION DU	E: NONE	
		MFG:			SERIAL:			
		MODEL:			CERTIFIC	ATION DU	E:	
СОММЕ	ENTS:							
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	ICVII	KUNE	NI CAL	IDKA I	ION D	HIMOI		
NAME: I	KILN 1 BA	GHOUSE	INLET TE	EMP				
MFG: R	OSEMOL	JNT						
MODEL	#: D5NAE	34 0-70	0 DEG.(F) = 4-20m	A			
SERIAL	#: 032956	6 03/00					= -	
TAG#:	TT-4302			<u>,</u>				
LOCATI			NLET DU				ATT OF THE PARTY O	
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0 F	0	4.00mA	3.99	3.99	0 F	0	0
2	175 F	175	8.00mA	7.99	7.99	175 F	175	175
3	350 F	350	12.00mA	11.99	11.99	350 F	349	349
4	525 F	525	16.00mA	15.99	15.99	525 F	525	525
5	700 F	700	20.00mA	20.00	20.00	700 F	700	700
CALIBRA	ATION DAT	ΓΕ: 10/6/10)	INSTRUI	MENT TEC	HNICIAN:	STUART	X)
		MFG: TRA	NSMATIO	N	SERIAL:	540201		U
TES	ST TE	MODEL: 1	1062 J/K		CERTIFIC	ATION DU	E: 1/29/11	
EQUIPI	MENT	MFG: RO	SEMOUNT		SERIAL:			
USI	ΞD	MODEL(2	275)	·	CERTIFIC	ATION DU	E: NONE	
		MFG: NBS	"K"THERM	OCOUPLE	SÉRIAL: 2	2285042		
		MODEL: 6	C-K-I-83-8	-R-13.5"	CERTIFIC	ATION DU	E: 7/9/11	
DRIFT	ACCEPTA	NCE: +/-	10 F			·······		
COMME	ENTS:		· · · · · · · · · · · · · · · · · · ·					<u>-</u>
								
								
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<u>L.</u>						******	····	

	INST	RUME	NT CAL	BRAT	ION D	ATA SH	EET	and the second s
NAME: I	CILN 1 HE	AT EXCH	ANGER E	XIT TEM	P		······································	
MFG: R	OSEMOL	JNT						
MODEL	#: 3044P	0-700 DE	G.(F) = 4-	20mA.				
SERIAL	#: 04104	54						
TAG#:	TT-4301							
LOCATI	ON: HEA	T EXCHA	NGER EX	IT DUCT	(ground le	evel)		
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0 F	0	4.00mA	3.98	3.98	0 F	-1	-1
2	175 F	175	75 8.00mA 7.99 7.99 175 F 175 175					
3	350 F	350	12.00mA	11.98	11.98	350 F	349	349
4	525 F	525	16.00mA	16.01	16.01	525 F	525	525
5	700 F	700	20.00mA	19.94	19.94	700 F	700	700
CALIBRA	ATION DAT	ΓE: 10/6/10	ס	INSTRUI	MENT TEC	HNICIAN:	STUART	(/XX
		MFG: TRA	NSMATIO	N	SERIAL (540201		V
TES	ST	MODEL: 1	062 J/K		CERTIFIC	ATION DU	E: 1/29/11	
EQUIPI	MENT	MFG: RO	SEMOUNT		SERIAL:			
USI	ΞD	MODEL(2	275)	:	CERTIFIC	ATION DU	E: NONE	
		MFG: NBS	"K"THERM	OCOUPLE	SERIAL: 2	2285043		
		MODEL: 6	C-K-I-83-8	-R-13.5"	CERTIFIC	ATION DU	E: 7/9/11	
DRIFT A	CCEPTA	NCE: +/-	10F					
COMME	NTS:							
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	INS I	RUME	NI CAL	-IBKA I	ION D	AIA SF		
NAME:	K1 BACK	END GAS	TEMP					
MFG: R	OSEMOL	JNT				-		
MODEL	#: 3044C	0-1400 D	EG.(F) = 4	l-20mA T	YPE K			
SERIAL	#: 005009	90						
TAG#:	TT-4303						···	
LOCATI	ON: MUL	TICLONE	PLATFO		EVEL			·
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0 F	O	4.00mA	3.92	3.92	0 F	-3	-3
2	350 F	350	8.00mA	7.97	7.97	350 F	348	348
3	700 F	700	12.00mA	11.97	11.97	700 F	698	698
4	1050 F	1050	16.00mA	15.98	15.98	1050 F	1048	1048
5	1400 F	1400	20.00mA	19.95	19.95	1400F	1398	1398
CALIBRA	ATION DAT	ΓE: 10/6/10		INSTRU	VENT TEC	HNICIAN:	STUART	1500
	· · · · · · · · · · · · · · · · · · ·	MFG: TRA	NSMATIO	N	SERIAL⋌	540201		1
TES	ST TS	MODEL: 1	062 J/K		CERTIFIC	ATION DU	E: 1/29/11	
EQUIPI	MENT	MFG: ROS	SEMOUNT		SERIAL:	·		·
USE	ED	MODEL:	75)		CERTIFIC	ATION DU	E: NONE	
		MFG: NBS	"K"THERM	OCOUPLE	SERIAL: 2	285046		
		<u> </u>	C-K-I-83-8-	R-13.5"	CERTIFIC	ATION DU	E: 7/9/11	
	tari katangak am	NCE: +/-	10 F			· · · , · · · ·		
COMME	NTS:							
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	M2 I KUMICIA I CALIDICA I IOIA DATA STILLI							
NAME:	KILN 1 HC	OD PRES	SSURE					
MFG: R	OSEMOU	NT						
MODEL	#: 1151 D	P -2.0" -	1.0" H ₂ O =	= 4-20 mA	•			
SERIAL	#: 150116	9	•					
TAG#: [DPT-5203							
LOCATI	ON: KILN		OL ROO					
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	-2.00"H2Q	-2.00	4.00mA	4.00	4.00	-2.00"H2O	-2.00	-2.00
2	-1.25"H2O	-1.25	8.00mA	8.00	8.00	-1.25"H2O	-1.25	-1.25
3	-0.50"H2O	-0.50	12.00mA	12.00	12.00	-0.50"H2O	-0.50	-0.50
4	0.25"H2O	0.25	16.00mA	16.00	16.00	0.25"H2O	0.25	0.25
5	1.00"H2O	1.00	20.00mA	20.00	20.00	1.00"H2O	1.00	1.00
CALIBRA	CALIBRATION DATE: 10/7/10 INSTRUMENT TECHNICIAN: STUART							
*		MFG: TRA	NSMATIO	N	SERIAL: 6	59990Z/C1	9004	7
TE:	ST	MODEL: 1	091/1091		CERTIFIC	ATION DU	É: 3/25/11	4/27/11
EQUIP	MENT		NSMATIO	N	SERIAL: 8	467002		
USI	ED	MODEL: S	D0312G	>	CERTIFIC	ATION DU	E: 10/28/11	
		MFG: TRA	NSMATIO	N	SERIAL: 9	7851101		
		MODEL: S	D0412G		CERTIFIC	ATION DU	E: 9/30/11	and the second s
	ACCEPTA	NCE: +/- (0.25" H ₂ O					
COMME	ENTS:	<u></u>					·	
		·			· · · · · · · · · · · · · · · · · · ·			
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INSTRUMENT CALIBRATION DATA SHEET

	INSTRUMENT CALIBRATION DATA SHEET							
NAME: I	KILN 1 WE	ST COO	LER UND	ER GRAT	E PRESS	URE		
MFG: R	OSEMOU	NT					·	
MODEL	#: 1151 D/	P 0-15" F	1 ₂ O = 4-20) mA				
SERIAL	#: 151900	2					,	
TAG#: F	PT-5204		·					
LOCATI	ON: KILN		OL ROO		<u> </u>			
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H ₂ O	0	4.00mA	4.00	4.00	0"H2O	0.0	0.0
2	3.75"H₂O	3.75	8.00mA	8.00	8.00	3.75"H ₂ O	3.75	3.75
3	7.5"H ₂ O	7.5	12.00mA	12.00	12.00	7.5"H ₂ O	7.5	7.5
4	11.25"H ₂ O	11.25	16.00mA	16.00	16.00	11.25"H ₂ O	11.25	11.25
5	15.0"H ₂ O	15.0	20.00mA	20.00	20.00	15.0"H₂O	15.0	15.0
CALIBRATION DATE: 10/7/10 . INSTRUMENT TECHNICIAN: STUART								
		MFG: TRA	NSMATIO	N		599902/C1		7
TES	ST	MODEL: 1	091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11
EQUIP			NSMATIO	N	SERIAL: 8	3467002		
USI	∃D	MODEL.	D0312G		CERTIFIC	ATION DU	E: 10/28/11	
:		MFG: TRA	NSMATIO	N	SERIAL: 9	7851101		
		MODEL: S	D0412G		CERTIFIC	ATION DU	E: 9/30/11	
COMMENTS:								
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	INSTRUMENT CALIBRATION DATA SHEET							
NAME: I	NAME: KILN 1 BAGHOUSE DIFFERENTIAL PRESSURE							
MFG: R	OSEMOU	NT		· · · · · · · · · · · · · · · · · · ·				
MODEL	#: 1151 D/	'P 0-15" F	I₂O = 4-20) mA				
SERIAL	#: 147479	0						
TAG#: [DPT-4303				<u></u>			
LOCATI	ON: KILN		LOCK HO	USE		,		
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0"H2O	0	4.00mA	4.00	4.00	0"H2O	0.0	0.0
2	3.75"H ₂ O	3.75	8.00mA	8.00	8.00	3.75"H ₂ O	3.75	3.75
3	7.5"H ₂ O	7.5	12.00mA	12.00	12.00	7.5"H ₂ O	7.50	7.50
4	11.25"H ₂ O	11.25	16.00mA	16.00	16.00	11.25"H ₂ O	11.25	11.25
5	15.0"H ₂ O	15.0	20.00mA	20.00	20.00	15.0"H ₂ O	15.00	15.00
CALIBRA	ATION DAT	E: 10/8/10	0	INSTRUI	MENT TEC	HNICIAN:	STUART	J. Jan
		MFG: TRA	OITAMENA	N	SERIAL: 6	5599902/C1	9004	1
TE	ST	MODEL: 1	1091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11
EQUIP	MENT	MFG: TRA	DITAMENA	N	SERIAL: 8	3467002	÷	
US	ED	MODEL	SD0312G	<i></i>	CERTIFIC	ATION DU	E: 10/28/11	
		MFG: TRA	ANSMATIO	N	SERIAL: 9	7851101		
		MODEL: 9	SD0412G		CERTIFIC	ATION DU	E: 9/30/11	
COMM	ENITQ:							
COMMAN								
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	INS I	KUMFI	VI CAL	JBRA I	ים אטו	4IA SH		
NAME: I	KILN 1 EA	ST COOL	ER UNDE	R GRATE	PRESSU	JRE		
MFG: R	OSEMOU	VT TV					<u></u>	
MODEL	#: 1151 D/	P 0-15" H	₁₂ O = 4-20	mA		· · · · · · · · · · · · · · · · · · ·		
SERIAL	#: 150026	4						
TAG#: F				· · · · · · · · · · · · · · · · · · ·				
LOCATI	ON: KILN		OL ROO		· · · · · · · · · · · · · · · · · · ·			
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H2O	0	4.00mA	4.00	4.00	0"H2O	0.0	0.0
2	3.75"H ₂ O	3.75	8.00mA	8.00	8.00	3.75"H₂O	3.75	3.75
3	7.5"H ₂ O	7.5	12.00mA	12.00	12.00	7.5"H ₂ O	7.5	7.5
4	11.25"H ₂ O	11.25	16.00mA	16.00	16.00	11.25"H ₂ O	11.25	11.25
5	15.0"H ₂ O	15.0	20.00mA	20.00	20.00	15.0"H₂O	15.0	15.0
CALIBRA	ATION DAT	E: 10/0#1	0/7/10	INSTRU		HNICIAN:		5/
		MFG: TRA	NSMATIO	N		55999021C1		<u> </u>
TE	ST	MODEL: 1	1091/1091			ATION DU	E: 3/25/11	4/27/11
EQUIP	MENT		NSMATIO	N	SERIAL: 8		· · · · · · · · · · · · · · · · · · ·	
US	ED	MODEL(S	SD0312G	<u>ر</u>		ATION DU	E: 10/28/11	
			NSMATIC	N	SERIAL:			
		MODEL: S	SD0412G		CERTIFIC	ATION DU	E: 9/30/11	
СОММ	ENTS:							
							 	
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	INSTRUMENT CALIBRATION DATA SHEET							
NAME: I	(ILN 1 PR	RIMARY AI	R FAN PF	RESSURE				
MFG: R	OSEMOU	NT						
MODEL	#: 1151 D	/P 0-60" h	l₂O = 4-20) mA		-		
SERIAL	# : 149002	1						
TAG#: F	T-1108							
LOCATI	ON: OUT	SIDE KILN	11 CONT	ROL ROC	M			
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H2O	0	4.00mA	4.00	4.00	0"H2O	0	0
2	15"H ₂ O	15	8.00mA	8.00	8.00	15"H ₂ O	15	15
3	30"H ₂ O	30	12.00mA	12.00	12.00	30"H ₂ O	30	30
4	45"H ₂ O	45	16.00mA	16.00	16.00	45"H ₂ O	45	45
5	60"H ₂ O	60	20.00mA	20.00	20.00	60"H ₂ O	60	60
CALIBRA	ATION DAT	ΓΕ: 10/7/10)	INSTRUI	MENT TEC	HNICIAN:	STUART	13
		MFG: TRA	NSMATIO	N	SERIAL: 6	5599902 (C1	9004	V
TES	ST	MODEL: 1	091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11
EQUIP	WENT	MFG: TRA	NSMATIO	N	SERIAL: 8	3467002	· ·	
USI	ĒD	MODEL(S	D0312G)	CERTIFIC	ATION DU	E: 10/28/11	
		MFG: TRA	NSMATIO	N	SERIAL: 9	7851101		
		MODEL: S	SD0412G		CERTIFIC	ATION DU	E: 9/30/11	
COMMENTS:								
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	INSTRUMENT CALIBRATION DATA SHEET							
NAME:	KILN 1 SC	RUBBER	VENTUR	DIFFER	ENTIAL P	RESSURE		
MFG: R	OSEMOU	ŇT						
MODEL	#: 1151 D	/P 0-10" H	12O = 4-20) mA				
SERIAL	#: 111108	7	•					
TAG#: [OPT-4401							
LOCATI	ON: SCRI	JBBER PI	LATFORM	1		years and an area of the same and an area		,
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0"H2O	0	4.00mA	4.00	4.00	0"H2O	0.0	0.0
2	2.5"H ₂ O	2.5	8.00mA	8.00	8.00	2.5"H ₂ O	2.5	2.5
3	5.0"H ₂ O	5.0	12.00mA	12.00	12.00	5.0"H ₂ O	5.0	5.0
4	7.5"H ₂ O	7.5	16.00mA	16.00	16,00	7.5"H ₂ O	7.5	7.5
5	10.0"H ₂ O	10.0	20.00mA	20.00	20.00	10.0"H ₂ O	10.0	10.0
CALIBRA	ATION DAT	E: 10/8/10)	INSTRUI	MENT TEC	HNICIAN:	STUART	1
		MFG: TRA	NSMATIO	N	SERIAL: 6	599902රු1	9004	
TES	ST	MODEL: 1	091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11
EQUIP	MENT	MFG: TRA	NSMATIO	N	SERIAL: 8	3467002		
USI	ED	MODEL (S	D0312G	>	CERTIFIC	ATION DU	E: 10/28/11	
		MFG: TRA	NSMATIO	N	SERIAL: 9	7851101		
		MODEL: S	D0412G		CERTIFIC	ATION DU	E: 9/30/11	
DRIFT /	ACCEPTA	NCE: +/-	0.5" H ₂ O					
COMME	ENTS:				· · · · · · · · · · · · · · · · · · ·	· 		
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INSTRUMENT CALIBRATION DATA SHEET								
NAME !	KILN 1 HC	OD PRES	SSURE *	**BACK**	:*			
	OSEMOU							
	#: 1151 D/		1.0" H ₂ O =	= 4-20 mA		,		
SERIAL	#: 236227	4			***			
TAG#: [OPT-5550							
LOCATI	ION: K1 M	ULTICLO	NE GROU	IND LEVE	L (north)			
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	-2.00"H2O	-2.00	4.00mA	4.00	4.00	-2.00"H2O	-2.00	-2.00
2	-1.25"H2O	-1.25	8.00mA	8.00	8.00	-1.25"H2O	-1.25	-1.25
3	-0.50"H2O	-0.50	12.00mA	12.00	12.00	-0.50"H2O	-0.50	-0.50
4	0.25"H2O	0.25	16.00mA	16.00	16.00	0.25"H2O	0.25	0.25
5	1.00"H2O	1.00	20.00mA	20.00	20.00	1.00"H2O	1.00	1.00
CALIBR/	ATION DAT	E: 10/8/1	Ó	INSTRU	MENT TEC	HNICIAN:	STUART	J.
		MFG: TRA	NSMATIO	N	SERIAL: 6	599902/C1	19004	V
Æ.	ST	MODEL: 1	091/1091		CERTIFIC	ATION DU	E: 3/25/11	4/27/11
EQUIPI	MENT	MFG: TRA	NSMATIO	N	SERIAL: 8	3467002		
USI	ED	MODELS		>	CERTIFIC	ATION DU	E: 10/28/1	
		MFG: TRA	NSMATIO	N	SERIAL: 9	7851101		
	,	MODEL: S	3D0412G		CERTIFIC	ATION DU	E: 9/30/11	
DRIFT /	ACCEPTA	NCE: +/-	0.25" H ₂ O					
COMME	ENTS:							
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NAME: KILN 1 SCRUBBER TANK LIQUID LEVEL

MFG: ROSEMOUNT

MODEL#: 1151L/T 0-40" H₂O = 4-20 mA

SERIAL#: 1983834

TAG#: LT-101

LOCATION: KILN 1 SCRUBBER TANK

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0"H₂O	0	4.00mA	4.00	4.00	0"H₂O	0	0
2	10"H₂O	10	8.00mA	8.00	8.00	10"H₂O	10	10
3	20"H₂O	20	12.00mA	12.00	12.00	20"H₂O	20	20
4	30"H₂O	30	16.00mA	16.00	16.00	30"H₂O	30	30
5	40"H₂O	40	20.00mA	20.00	20.00	40"H₂O	40	40

CALIBRATION DATE: 10/8/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED MFG: TRANSMATION SERIAL: 6599902/C19004

MODEL: 1091/1091 CERTIFICATION DUE: 3/25/11 4/27/11

MFG: TRANSMATION SERIAL: 8467002

MODEL: SD0312G CERTIFICATION DUE: 10/28/11

MFG: TRANSMATION SERIAL: 97851101

MODEL: SD0412G CERTIFICATION DUE: 9/30/11

DRIFT ACCEPTANCE: +/- 1.0"H₂O

COMMENTS:

INSTRUMENT CALIBRATION DATA SHEET								
NAME: I	CILN 1 HE	AT EXCH	ANGER D	IFFEREN	TIAL PRE	SSURE		
	OSEMOU		· · · · · · · · · · · · · · · · · · ·					
MODEL	#: 1151 D	/P 0-6" Hz	2O = 4-20	mA		•		
SERIAL	‡ : 196857	7						
TAG#: [PT-4301							
LOCATI	ON: TOP	OF HEAT	EXCHAN	GER	·			
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H2O	0	4.00mA	4.00	4.00	0"H ₂ O	0.0	0.0
2.	1.5"H ₂ O	1.5	8.00mA	8.00	8.00	1.5"H ₂ O	1.5	1.5
3	3.0"H ₂ O	3.0	12.00mA	12.00	12.00	3.0"H ₂ O	3,0	3.0
4	4.5"H ₂ O	4.5	16.00mA	16.00	16.00	4.5"H ₂ O	4.5	4.5
5	6.0"H ₂ O	6.0	20.00mA	20.00	20.00	6.0"H ₂ O	6.0	6.0
CALIBRA	TION DAT	TE: 10/8/10)	INSTRUI	MENT TEC	HNICIAN:	STUART	
		MFG: TRA	NSMATIO	N	SERIAL: 6	59990&C	19004	7
TES		MODEL: 1		**************************************	CERTIFIC	ATION DU	E: 3/25/11	4/27/11
EQUIP		ļ	NSMATIO	N	SERIAL: 8		· · · · · · · · · · · · · · · · · · ·	
ÚSI	€D	MODELL				ATION DU	E: 10/28/11	
		· · · · · · · · · · · · · · · · · · ·	NSMATIO	N	SERIAL: 9			
		MODEL: 8	SD0412G		CERTIFIC	ATION DU	E: 9/30/11	
COMME	NTS:							
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	INST	RUME	NT CAI	_IBRA7	TION D	ATA SH	EET	
NAME: I	NAME: KILN 1 SCRUBBER DUCON DIFFERENTIAL PRESSURE							
MFG: R	OSEMOU	NT			-			
MODEL	#: 1151 D	/P 0-10" F	12O = 4-20) mA				
SERIAL	#: 224659	9			•			
TAG#: [PT-4402							
LOCATI	ON: SCR	UBBER P	LATFORM	1		3- V- 12-1-1-A-Wheel 31-1-1-1-1-1-1		
TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR		INDICATOR AS LEFT
1	0 "H ₂ O	0	4.00mA	4.00	4.00	0"H ₂ O	0.0	0.0
2	2.5"H ₂ O	2.5	8.00mA	8.00	8.00	2.5"H ₂ O	2.5	2.5
3	5.0"H ₂ O	5.0	12.00mA	12.00	12.00	5.0"H ₂ O	5.0	5.0
4	7.5"H ₂ O	7.5	16.00mA	16,00	16.00	7.5"H ₂ O	7.5	7.5
5	10.0"H ₂ O	10.0	20.00mA	20.00	20.00	10.0"H ₂ O	10.0	10.0
CALIBRA	TAD NOITA	E: 10/8/10	9	INSTRUI	MENT TEC	HNICIAN:	STUART	H
		MFG: TRA	NSMATIO	N	SERIAL: 6	599902/C1	9004	/
TES	ST	MODEL: 1	091/1091		CERTIFIC	ATION DUI	E: 3/25/11	4/27/11
EQUIPI	MENT	MFG: TRA	NSMATIO	N	SERIAL: 8	467002		
USE	ED	MODEK: S	D0312G	>	CERTIFIC	ATION DU	E: 10/2 8/11	
		MFG: TRA	NSMATIO	Ń	SERIAL: 9	7851101		
		MODEL: 8	D0412G	·	CERTIFIC	ATION DU	E: 9/30/11	
СОММЕ	ENTS:							

INSTRUMENT CALIBRATION DATA SHEET						
NAME: KILN 1 BAGHOUSE LEAK D	ETECTOR CHECK					
MFG: BHA						
MODEL#: CPM750						
SERIAL#:750395 TAG# PD-1000						
RANGE: 0-100%						
LOCATION: CEM PROBE DECK						
CLEANED SIGHT TUBES	YES NO					
CLEANED TRANSMITTER LENS	YES NO					
CLEANED RECEIVER LENS	YES NO					
AIR INLET CLEAR	YES NO					
MAINTENANCE LIGHTS	YES NO.					
CALIBRATION DATE: 10/12/10	INSTRUMENT TECHNICIAN: STUART					
	V					
COMMENTS:						
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ga di mangia. Tangan kanangan	e, mark, a statement to the second control of the second control o					
· · · · · · · · · · · · · · · · · · ·						

INSTRUMENT CALIBRATION DATA SHEET								
NAME: KILN 1 I.C	. FAN MOTOR CU	IRRENT						
MFG: ABB								
MODEL#: ACS60								
RANGE: 0-500 A								
LOCATION: KILN	1 MCC							
TAG# IDF-4301								
TEST POINTS	AMMETER READING	CONTROL RM. READING (MRA)	TEST EQUIPMENT USED					
PHASE A	313	318	MFG: Fluke Fluke					
PHASE B	318	318	MODEL#: 334/334					
PHASE C	318	318	SERIAL#: 13000087/90704869					
			CERTIFICATION DUE: 7/26/11 9/30/11					
CALIBRATION DAT	E: 10/12/10	INSTRUMENT TECHNICIAN: STUART						
DRIFT ACCEPTA	NCE: +/- 25 AMPS							
COMMENTS:								
	· · · · · · · · · · · · · · · · · · ·							
								
								
<u> </u>								
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		and the second s
NAME: STACK GAS FLOW METER KILN #1		
MFG: FCI		
MODEL#: GF90		
SERIAL#: 244110A		
CERT. DUE: 5/11		
TAG#: FT-5555		
LOCATION: KILN 1 MCC		
METER READING FIELD:	32.00 scfm	
METER READING CONTROL ROOM:	32,006 scfm	
METER READING DIFFERENCE:	6	
VISUAL INSPECTION (STACK):	ok	
VISUAL INSPECTION (ELECTRONICS):	ok	
DATE:	10/14/10	
INSTRUMENT T	ECHNICIAN:	STUART
DRIFT ACCEPTANCE +/- 5%		14
COMMENTS:		
QUARTERLY CLEANINGS:		2
MARCH		
JUNE		
SEPTEMBER		
DECEMBER		

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER BLOWDOWN PH #1"A"

MFG: ROSEMOUNT

MODEL#: 2081 PH

SERIAL#: A-95 33996 TAG# 4401A

RANGE: 3.5 - 10.5 = 4-20mA

LOCATION: RECIRCULATION TANK

EQUIPMENT USED: ROSEMOUNT 268

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	l	INDICATOR AS LEFT
2	7.0 PH	7	12,0mA	12.25	12.00	7.0 PH	7.11	7.00
3	10.00 PH	10	18.8mA	19.22	18.80	10.00 PH	10.16	10.00

CALIBRATION DATE: 10/15/10 INSTRUMENT T

INSTRUMENT TECHNICIAN: STUART

13

DRIFT ACCEPTANCE: +/- 0.5 PH

COMMENTS:

USE BUFFER SOLUTIONS OF 7 AND 10

NEW ProBe

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER BLOWDOWN PH #1"B"

MFG: ROSEMOUNT

MODEL#: 2081 PH

SERIAL#: D92-90765 TAG# 4401B

RANGE: 3.5 - 10.5 = 4-20mA

LOCATION: RECIRCULATION TANK

EQUIPMENT USED: ROSEMOUNT 268

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	7.0 PH	7	12.0mA	11.97	12.00	7.0 PH	6.99	7.00
3	10.00 PH	10	18.8mA	18.89	18.80	10.00 PH	10.02	10.00

CALIBRATION DATE: 10/15/10

INSTRUMENT TECHNICIAN: STUART

Dod

DRIFT ACCEPTANCE: +/- 0.5 PH

COMMENTS:

USE BUFFER SOLUTIONS OF 7 AND 10

Ne zrose

AECOM Environment

Equipment Certification Sheets

°CALIBRATION SERVICES



CALIBRATION CERT#

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr:

Date Received: Oct 23, 2009

Cert/RA Nbr: 1-0V2BC-2-1

Manufacturer: Ametek

Model Nbr: 1726

Date Calibrated: Oct 26, 2009

Next Calibration: Oct 26, 2010

Description: Digital Tachometer

Serial Nbr: M367330-398

ID Nbr: NONE

Calibration Proc: 1-AC06522-7

Item Received: In Tolerance

Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0V2BC-2-1

Temperature: 70°F / 21.1°C

Temp/RH Asset: 2993C

Relative Humidity: 42%

Transcut Californian Laboratoric have been audited and found in compliance with ISO/IEC 17025:2005. According to a found the Lab's Scope of Accordington are indicated by the presence of the According Body's Logo and NVLAP, AZLA. NIST, or any agency of the Federal Government.

Transcut calibrations, as applicable, are performed in compliance with the requirements of ISO 900 1-2000, ISO TS16949, ANSVNCSL Z540-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of 10CFR21, 10CFR50 App. B and NQA-1 are also covered:

Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (MST) or the National Research Council of Canada (NRC), or to other recognized national or international standards bodes (NMP 9, or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of racentitity for the reported measurement results is maintained at the Transcal facility and is a vailable there for review.

Complete records of work performed are misingulated by Transpart and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this report relate only by the item calibrated or tested, and the determination of in or our of tolerance is specific to the model/scalal no, referenced above based on the manufacturer's published specifications.

All calibrations have been performed using processes having a test uncertainty ratio of four or moretimes greater than the unit calibrated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k=2). Calibration at a 4.1 TUR provides peasonable confidence that the instrument is within the manufacturer's published specifications. Limitations on the uses of this instrument are detailed in the manufacturer's operating instructions. Any number of factors can cause a unit to drift out of tolerance of any time following its calibration. The reported uncertainty is the uncertainty of the draft business process. For measuring instruments, add 0.6 of the least significant digit

Notes: Unit was received in-tolerance. No adjustment required.

Assets <u>Manufacturer</u> <u>Model</u> Description Cal Date Due Date Traceability Numbers 2805 Fluke Corporation 910R GPS-Controlled Frequency Stand 3/27/2001 3/27/2011 SM780614 LS001 HP 33120A Function/Arbitrary, Waveform, 1/16/2009 1/31/2010 1-&LS001-1-3 Generator, 15 MHz

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Ken Marciano

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Digitally Signed By Chris Herrmann

Date: 10/27/2009 4:33:43 PM

Chris Herrmann Lab Manager

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F0013R21 8/06/2009 Certificate - Page 1 of 1

TRANSCAT® CALIBRATION SERVICES



CALIBRATION CERT #

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr:

Date Received: Oct 23, 2009

Cert/RA Nbr: 1-0V2BC-1-1

Manufacturer: Transmation

Model Nbr: SD0312G

Date Calibrated: Nov 3, 2009

Next Calibration: Nov 3, 2010

Description: Pressure Module

1 Iossuic Module

Calibration Proc: 1-AC07428-0

Serial Nbr: 8467002 ID Nbr: NONE Item Received: In Tolerance Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0V2BC-1-1

Temperature: 71.5°F / 21.9°C

Temp/RH Asset: 2672

Relative Humidity: 34%

Transcat Calibration Laborator is have been sadied and found in compliance with ISO/IEC 17025; 2005. Accordited calibrations performed within the Lab's Scope of Accorditation are indicated by the presence of the Accorditing Body's Logo and Certificate Number on this Certificate of Celibration. Any measurements on an accordited calibration not covered by that Lab's Scope are need below. This report must not be used to a him product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

Transcatcal brations, as a private, are performed in compliance with the requirements of USO 9001:2000, ISO TS 16949, ANSUNCSL Z540-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of 10CFR21, 10CFR20 App. B and NQA-1 are also concreted.

Transcri will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bedies (NMIS), or to measurable conditions created in our laboratory, or accepted fundamental and/or manural physical constants, ratio type of calibration, or by comparison to consumus standards. The specific path of transcribility for the reported measurement pressurement pressurement results in maintained at the Transcratification and its available there for review.

Complete records of work performed are maintained by Transa at and and and available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this to pon relate only to the item culibrated or tested, and the determination of in or out of tolerance is specific to the medel/soilal no, referenced above based on the manufacturer's published specifications.

All califrations have been performed using processes being a test-uncertainty ratio of flour or more timing greater than the unit on them of the med, unless otherwise noted on the Supplemental Report. Under tainlies have been estimated at a 95 percent confidence level (4=2). Califration at a 4.1 TUR provided reasonable confidence that the instrument is switched the menufacturer's published specifications. Limitations on the uses of this instrument are dataled in the minufacturer's operating instructions. Any number of factors can cause a unit to drift out of tolerance at any time following, its calibration. The reported uncertainty is the uncertainty of the calibration process. For measuring instruments, add 0,6 of the least significant digit to the concrete duration to obtain the measurement uncertainty of the unit cited it is the specific point.

Notes:

Cal Date Due Date Traceability Numbers Model Description Assets Manufacturer 3016 Digital Multimeter, 8.5 digit 7/27/2009 1/31/2010 5-0R0XL-1-1 Keithley Instruments 2002 Pressure Calibrator 7/23/2009 1/31/2010 5-0R4WZ-1-1 O10172 Ruska Instruments Corp 7250xi

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Doug Urquhart Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720



Digitally Signed By Bill Pritchard for

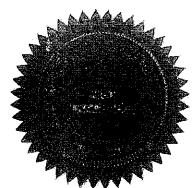
Date: 11/3/2009 10:13:11 AM

Chris Herrmann Lab Manager

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F0013R21 8'06'2009 Certificate - Page 1 of 1





Customer:

Norlite Corporation

Mfr.: Model: Fischer & Porter

Serial:

10D1475P

93W034753

Date:

12/2009

TECO Number: (51619)

Size:

4.00

Fluid:

Water

Run1 COMPUTED FACTOR

1071.0836

Run 2 COMPUTED FACTOR

1070.4069

Run 3 COMPUTED FACTOR

1071.5330

Run 4 COMPUTED FACTOR

1070.8675

NEW CALIBRATION FACTOR:

1073.00000

Flowlab Tech: PDO

Date: 12/2009

Standards used for calibration

ASSET NO.

Description/

Serial No/ Laboratory

Manufacturer/

Last Cal/ Cert No

Model No/ Next Cal

MTE-0581

MTE-0571

1-1/2" MASS FLOW METER

134902 TECO

MICRO MOTION-

4/272009 A427

DS1505141 4/27/2010

CONVERTER 95W008882

6/80/2009 A02370

FISCHER & PORTER 50XM13NXAD10AAAC229

6/8/2010

TECO

Thompson Equipment Company, Inc.

(504) 833-6381 Voice

NEICVP1120E01

125 Indústrial Avenue New Orleans, LA 70121

P.O. Box 4189 New Orleans, LA 70178-4189

(504) 831-4664 Fax
Netral ShopiFLOWROOMData2009(51619,040, Norlite:NIST.doc

Appendix CAA A Page 355 of 1159



Customer: Mfr.:

Norlite Corporation

Fischer & Porter

Model: Serial:

10D1475EN15PL29KW12CAC2

92W442739

Date:

12/2009

TECO Number: 52734

Size:

4.00

Fluid:

Water

Run1 COMPUTED FACTOR

Run 2 COMPUTED FACTOR

Run 3 COMPUTED FACTOR

Run 4 COMPUTED FACTOR

1075.3876

1075.6934

1075.7566

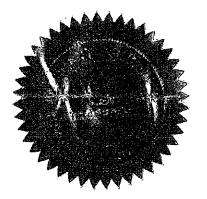
1075.4602

NEW CALIBRATION FACTOR:

1073.00000

Flowlab Tech: PDO

Date: 12/2009



Standards used for calibration

ASSET NO.

Description/

Serial No/

Laboratory

Manufacturer/

Last Cal/

Cert. No

Model No! **Next Cal**

MTE-0581

MTE-0571

1-1/2" MASS FLOW METER

134902

TECO

CONVERTER

95W008882

TECO

MICRO MOTION

4/272009 A427

FISCHER & PORTER

6/80/2009 A02370

DS1505141 4/27/2010

50XM13NXAD10AAAC229

6/8/2010

Thompson Equipment Company, Inc.

(504) 833-6381 Voice

(504) 831-4664 Fax Ne T:\DATA\Shop\FLOWROOM\Data2009\52734.040. Norlite. NIST. doc

125 Industrial Avenue New Orleans, LA 70121

P.O. Box 4189 New Orleans, LA 70178-4189

NEICVP1120E01

Appendix CAA A Page 356 of 1159

Norlite, LLC Cohoes, New York



Customer:

Norlite Corporation

Date:

12/2009

Mfr.:

Fischer & Porter

TECO Number: 51209

Model:

10D1475PN15PL29KY12A1112C1

Size:

4.00

Serial:

92W442658

Fluid:

Water

Run1 COMPUTED FACTOR

1074.291381

Run 2 COMPUTED FACTOR

1073.044927

Run 3 COMPUTED FACTOR

1073.562150

Run 4 COMPUTED FACTOR

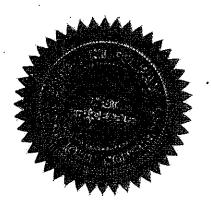
1074.968529

NEW CALIBRATION FACTOR:

1073.00000

Flowlab Tech: PDO

Date: 12/2009



Standards used for calibration

ASSET NO.

Description/

Manufacturer/

Model No/

Serial No/ Laboratory

Last Cal/ Cert. No

Next Cal

MTE-0581

1-1/2" MASS FLOW METER 113674A

MICRO MOTION 4/27/2009

DS150S141 4/27/2010

MTE-0571

TECO CONVERTER

A427 FISCHER & PORTER

50XM13NXAD10AAAC22

95W008882

6/8/2009

TECO

A02370

6/8/2010

Thompson Equipment Company, Inc.

(504) 833-6381 Voice (504) 831-4664 Fax

125 Industrial Avenue New Orleans, LA 70121

P.O. Box 4189 New Orleans, LA 70178-4189

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Customer:

Norlite Corporation

Mfr.:

Fischer & Porter

Model: Serial:

10D1475PN

92W442657

Date:

12/2009

TECO Number: 50981 Size:

4.00

Fluid:

Water

Run1 COMPUTED FACTOR

Run 2 COMPUTED FACTOR

Run 3 COMPUTED FACTOR

Run 4 COMPUTED FACTOR

1071.1436

1070.6181

1070.2757

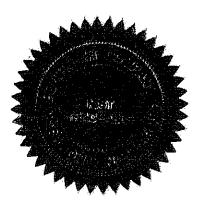
1071.2434

NEW CALIBRATION FACTOR:

1073.00000

Flowlab Tech: PDO

Date: 12/2009



Standards used for calibration

ASSET NO.

Description/

Laboratory

Serial No/

Manufacturer/

Last Cal/ Cert. No

Model No/ Next Cal

MTE-0581.

MTE-0571

1-1/2" MASS FLOW METER

134902

TECO

CONVERTER 95W008882

TECO

MICRO MOTION

4/272009

A427

FISCHER & PORTER

6/80/2009 A02370

DS1505141 4/27/2010

50XM13NXAD10AAAC229

6/8/2010

Thompson Equipment Company, Inc.

(504) 833-6381 Voice (504) 831-4664 Fax

125 Industrial Avenue New Orleans, LA-70121

P.O. Box 4189 New Orleans, LA 70178-4189

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Customer:

Norlite Corporation

Mfr.: Model:

Fischer & Porter 10D1475PL29KY12A1112C2

Serial:

92W442738

Date:

12/2009

TECO Number: 51485

1.50

Size: Fluid:

Water

Run1 COMPUTED FACTOR

Run 2 COMPUTED FACTOR

Run 3 COMPUTED FACTOR

Run 4 COMPUTED FACTOR

161.5348

161.4306

161.5888

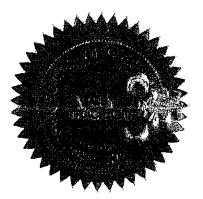
161.3666

NEW CALIBRATION FACTOR:

161.00000

Flowlab Tech: PDO

Date: 12/2009



Standards used for calibration

ASSET NO.

Description/

Serial No/

Laboratory

Manufacturer/

Last Cal/ Cert. No

Model No/ **Next Cal**

MTE-0581

MTE-0571

1-1/2" MASS FLOW METER

134902 TECO

CONVERTER

95W008882

TECO

MICRO MOTION

4/272009

A427

FISCHER & PORTER

6/80/2009 A02370

DS1505141 4/27/2010

50XM13NXAD10AAAC229

6/8/2010

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125 Industrial Avenue New Orleans, LA 70121

P.O. Box 4189 New Orleans, LA 70178-4189

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Customer:

Norlite Corporation

Date:

12/2009

Mfr.:

Fischer & Porter

Model:

10D1475SN09PL29KY12A

Serial:

95W038438

TECO Number: 52159

Fluid: Water

Run1 COMPUTED FACTOR

53.502393

Run 2 COMPUTED FACTOR

53.534277

Run 3 COMPUTED FACTOR

53.516663

Run 4 COMPUTED FACTOR

53.534930

NEW CALIBRATION FACTOR:

53.67

Flowlab Tech: PDO

Date: 12/2009

Standards used for calibration

ASSET NO.

Description/

Laboratory

Serial No/

Manufacturer/

Last Cal/ Cert. No

Model No/ Next Cal

MTE-0565

MTE-0571

1-1/2" MASS FLOW METER

134902 TECO

TECO

CONVERTER

95W008882

MICRO MOTION 4/27/2009

2008-129-C0940 FISCHER & PORTER

6/8/2009 A'02370

D\$150\$141

4/27/2010

50XM13NXAD10AAAC22 6/8/2010

Thompson Equipment Company, Inc.

(504) 833-6381 Voice

(504) 831-4664 Fax T-IDATAIShop\FLOWROOM\Data2009\52159.Norlite NIST.flow.report.doc

125 Industrial Avenue New Orleans, LA 70121

P.O. Box 4189 New Orleans, LA 70178-4189



Customer:

Norlite Corporation

Mfr.:

Fischer & Porter

Model: Serial:

10D1475PN15PL29AY12A

94W445135

Date:

01/2010

TECO Number: 51486

Size: Fluid: 4.00 Water

Run1 COMPUTED FACTOR

1070.3841

Run 2 COMPUTED FACTOR

1070.2983

Run 3 COMPUTED FACTOR

1070.1689

Run 4 COMPUTED FACTOR

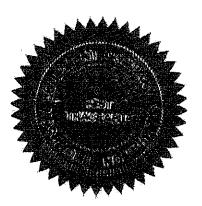
1071.8956

NEW CALIBRATION FACTOR:

1073.00

Flowlab Tech: PDO

Date: 01/2010



Standards used for calibration

ASSET NO.

Description/

Serial No. Laboratory

Manufacturer/ Last Cal/ Cert. No

Model No/ Next Cal.

MTE-0581

1-1/2" MASS FLOW METER

TECO

TECO

134902

MICRO MOTION 4/272009 A427

DS1505141 4/27/2010

MTE-0571

CONVERTER 95W008882

FISCHER & PORTER 6/80/2009

A02370

50XM13NXAD10AAAC229

6/8/2010

Thompson Equipment Company, Inc.

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(504) 831-4664 Fax

125 Industrial Avenue New Orleans, LA 70121

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P.O. Box 4189 New Orleans, LA 70178-4189



Customer:

Norlite Corporation

Mfr.: Model:

Fischer & Porter 10D1475SN09PL29KY12A

Serial:

99W003139

Date:

01/2010

TECO Number: 52883

1.00

Size: Fluid:

Water

Run1 COMPUTED FACTOR

Run 2 COMPUTED FACTOR

Run 3 COMPUTED FACTOR

Run 4 COMPUTED FACTOR

53.724168

53.623518

53.776268

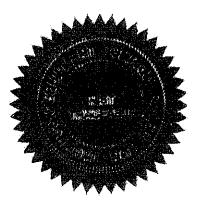
53.627172

NEW CALIBRATION FACTOR:

53.67

Flowlab Tech: PDO

Date: 01/2010



Standards used for calibration

ASSET NO.

Description/

Serial No/ Laboratory

Model No/ Next Cal

MTE-0581

MTE-0571

1-1/2" MASS FLOW METER

134902

TECO CONVERTER

95W008882 **TECO**

MICRO MOTION

Manufacturer/

4/272009

Last Cal/

Cert. No

A427

FISCHER & PORTER

6/80/2009 A02370

DS1505141 4/27/2010

50XM13NXAD10AAAC229

6/8/2010

Thompson Equipment Company, Inc.

(504) 833-6381 Voice

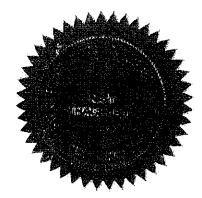
(504) 831-4664 Fax Ne T:/DATA/Shop/FLOWROOM/Dala2010/52883:010 Norlite.NIST.doc

125 Industrial Avenue

New Orleans, LA 70121

P.O. Box 4189 New Orleans, LA 70178-4189





Customer: Mfr.:

Norlite Corporation

Fischer & Porter

Model:

10D1475PL29KY12A111C1

Serial:

93W014157

Date:

01/2010

TECO Number: 51570 Size:

1.50

Fluid:

Water

Run1 COMPUTED FACTOR

160,765178

Run 2 COMPUTED FACTOR

160.880648

Run 3 COMPUTED FACTOR

160.981491

Run 4 COMPUTED FACTOR

160.132474

NEW CALIBRATION FACTOR:

161.00000

Flowlab Tech: KS

Date: 01/2010

Standards used for calibration

ASSET NO.

Description/

Serial No/

Laboratory

Manufacturer/

Last Cal/ Cert. No

Model No/ **Next Cal**

MTE-0581

MTE-0571

1-1/2" MASS FLOW METER

134902

TECO

CONVERTER 95W008882

TECO

MICRO MOTION

4/272009

A427 FISCHER & PORTER

6/80/2009 A02370

DS1505141 4/27/2010

50XM13NXAD10AAAC229

6/8/2010

Thompson Equipment Company, Inc.

(504) 833-6381 Voice

(504) 831-4664 Fax T:\DATA\Shop\FLOWROOM\Data2010\51486.015.Norlite.NIST.doc

125 Industrial Avenue New Orleans, LA 70121

P.O. Box 4189 New Orleans, LA 70178-4189



Customer:

Norlite Corporation

Date:

09/2010

Mfr.:

Fischer & Porter

Model:

10D1475SN09PL29KY12A

Fluid: Water

Serial:

95W038438

Run1 COMPUTED FACTOR

53.665945

TECO Number: 52159

Run 2 COMPUTED FACTOR

53.703545

Run 3 COMPUTED FACTOR

53.675714

Run 4 COMPUTED FACTOR

53.622712

NEW CALIBRATION FACTOR:

53.67

Flowlab Tech: PDO

Date: 09/2010

Standards Used for Calibration

ASSET NO.

Description/

Serial No./

Manufacturer/

Laboratory

Last Cal./

Cert. No.

1. MTE-0590

1-1/2" MASS FLOW METER

MICRO MOTION

113674A

6/4/2010

2. MTE-0570 CONVERTER 09022009

113674

FISCHER & PORTER

TECO

TECO

2/23/2010 A02404

Next Cal.

Model/

DS150S141 6/4/2011

50XM1000 2/23/2011

Thompson Equipment Company, Inc.

(504) 833-6381 Voice

(504) 831-4664 Fax
New Orl
T/IDATA/Shop/FLOWROOM/Data2010/52159,Norlite.N/ST,flow.report.doc

125 Industrial Avenue New Orleans, LA 70121

New Orleans, LA 70178-4189

NEICVP1120E01

Appendix CAA A Page 364 of 1159

Norlite, LLC Cohoes, New York

P.O. Box 4189



CALIBRATION CERT # 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 11861

Date Received: Jan 25, 2010

Cert/RA Nbr: 1-0X7LA-32-1

Manufacturer: Ametek M&G Products

Description: Multimeter, Module

Model Nbr: 90B1

Date Calibrated: May 19, 2010 Next Calibration: May 19, 2011

Calibration Proc: 1-AC22124-0

Serial Nbr: M700480-26

ID Nor: NONE

Unit Barcode: 900A2835243

Item Received: In Tolerance

Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0X7LA-32-1

Temperature: 72°F / 22.2°C

Temp/RH Asset: 2993B

Relative Humidity: 32%

Transcal Calibertion Laboratories have been artified and found in compliance with ISO/ISC 17022-2003. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of this Astroditing Bidy's Logu and Conflicate Number on this Certificate of College in Certificate of College in Conflict College in Confli

Transcent softwartness, as applicable, are performed in compliance with the requirements of ISO 9901/2000, ISO T\$15949, ANSIANCSL Z540-1994, Q5-9000 and ISO 18012-1992. When specified contractedly, the requirements of ISOTR'13, 10CR'19 App. II and NQA-1 are also convered.

Transmit will projected and descripted the transcriptibility of all the standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized autional or international standard knoles (NMI's), or to measurable coordinates unvaled in our taburatory, or accepted fundamental and/or satisfaced at the Transcript Standards and the Council of Standards and Standards. The specific path of transcriptibility for the response measurant results. It maintained at the Transcript Standards there for review.

e Complete records of Work pertinmed one maintained by Transcut and are available for inspection. Laburatory stypidards used in the performance of this calibration are shown below.

The results in this report reints only to the item califyated or tosted, and the determination of ite or out of plerance is specific to the model/serial no, referenced above based on the monufacturer's published specifications.

All calibrations have been performed using processes having a test uncertainty rotio of four or more times greater than the task calibrated, unless otherwise noted on the Supplemental Report. Uncertainties have been staffmated at a 95 percent confidence level (k-2). Calibration TUR provides reasonable confidence than the instrument as within the instruction of the confidence than the instructions. Any transfer of factors (on cause a task to define the relationship of the uncertainty is the uncertainty of the uncertainty of the task under test at the specific point. For most calibrations referenced to 80 perc.

Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
10021	Fluke Corporation	5700A-EP	Multifunction Calibrator	01/27/2010	07/31/2010	5-0W4M4-1-1
2559	General Resistance	RDS63A	Decade Box, Resistance, 0.01%	12/08/2009	06/30/2010	1-&2559-2-25
31190	НР	3458A Opt002	Digital Multimeter	06/11/2009	06/30/2010	5-0Q2Y2-1-1
W2570	General Radio	1433-B	Decade Box, Resistance	02/24/2010	08/31/2010	1-&W2570-2010-2

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Bill Pritchard

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Digitally Signed By Chris Herrmann

Date: 05/19/2010 10:01:52 PM

Chris Herrmann Lab Manager

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F0013R21 x 365/2000 Certificate - Page 1 of 1



CALIBRATION CERT#

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 11861

Date Received: Jan 25, 2010

Cert/RA Nbr: 1-0X7LA-34-1

Manufacturer: Ametek M&G Products

Date Calibrated: Feb 4, 2010

Next Calibration: Feb 4, 2011

Model Nbr: 90K1

Description: Temperature Module

Calibration Proc: 1-AC08581-1

Serial Nbr: M779640-4

Item Received: In Tolerance

ID Nbr: NONE

Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0X7LA-34-1

Temperature: 71°F / 21.7°C

Temp/RH Asset: 2993C

Relative Humidity: 33%

Transcent Californition Laboratories have been establed and fosted in compliance with ISCRIEC 17025/2005. According collisions performed within the Lab's Scope of Assertalization are indicated by the presence of the Assertalization Body's Laps and Certificate Number on this Certificate of Californics. Any measurements we are accorded activities on an according Body's Laps and Certificate Number on this Certificate of Californics. Any measurements we are accorded activities and accorded by that Lab's Scope are noted below. This report must not be used to claim product certification, approved, or endorsement by NVLAP, AZLA, NIST, or any agency of the Federal Coventment.

Transcut enlibrations, as applicable, are performed in exemplanee with the requirements of ISO 9001:2000, ISO 7816949, ANSINCSL ZS40-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of IOCFR21, IOCFR29 App. B and NQA-1 are also

Entering will maintain and decomposed the traceobility of all its standards to the National Institute of Standards and Technology (NIST) of the National Research Council of Caenda (NRC), or to other recognized unifous) or international standard bodies (NMI), or to measurable conditions executed in our laboratory, or accepted fundamental subJet natival physical constants, ratio type of cultivation, or by comparison to constants standards. The specific path of traceobility for the reported measurement results is maintained at the Transact facility and in available there for review.

Complete receives of Kirk performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below,

The results in this repires relate only to the item calibrated or tested, and the determination of in or out of followings is specific to the model/serial no, referenced above based on the man

All antifications have been performed using processes having a test uncertainty ratio of four or more times greater than the unit authented, endoes otherwise noted on the Supplemental Rejoint. Uncertainties have been estimated at a 95 percent confidence loved (E-2). Calibration at a 4.1 TLR provides persuable, confidence to the transfer of persuas and the transfer of persuas and the transfer of persuas and the transfer of persuas and the transfer of persuas and the transfer of persuas and the transfer of persuas and the transfer of persuas and the transfer of persuas and the transfer of persuas and the transfer of persuas and the persuas and the transfer of persuas and the transfer of persuas and the transfer of persuas and the transfer of persuas and the persuas and the persuas and the persuas and the persuas and the persuas are transfer of the persuas and the persuas are transfer of the persuas and the persuas are transfer of the persuas and the persuas are transfer of the persuas and the persuas are transfer of the persuas and the persuas are transfer of the persuas and the persuas are transfer of the persuas and the persuas are transfer of the persuas and the persuas are transfer of the persuas and the persuas are transfer of the persuas and the persuas are transfer of the persuas are transfer

Notes:

Assets	Manufacturer	<u>Modei</u>	Description	Cal Date	Due Date	Traceability Numbers
18802	Fluke Corporation	5440B	Calibrator, Meter, Voltage, DC	05/20/2009	02/28/2010	5-0P4A7-1-1
21639	НР	3458A Opt 002	Digital Multimeter, 8.5 Digit	08/13/2009	02/28/2010	5-0R9VM-1-1
MTCE2	National Basic Sensor	172142-E	Half Junction Thermocouple, Type E	02/13/2009	02/28/2010	6-0L50X-2-1
O10053	Hart Scientific	9101	Zero/Ice Point Reference Cell	01/04/2010	01/31/2011	1-&010053-12-1
TC01JÍ	National Basic Sensor	172142-J	Half Junction Thermocouple, Type J	02/13/2009	02/28/2010	6-0L50X-4-1
TC01K1	National Basic Sensor	172142-K	Half Junction Thermocouple, Type K	02/13/2009	02/28/2010	6-0L50X-5-1
TC01T1	National Basic Sensor	172142-T	Half Junction Thermocouple, Type T	02/13/2009	02/28/2010	6-0L50X-6-1

Calibrated at:

35 Vantage Point Dr. Rochester, NY 14624 By: Patrick Whalen

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Digitally Signed By Chris Herrmann Date: 02/04/2010 10:02:57 PM

Chris Herrmann Lab Manager

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F0013R21 8/06/2009 Certificate - Page 1 of 1

TRANSCAT CALIBRATION SERVICES



CALIBRATION CERT #

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 11861

Date Received: Jan 25, 2010

Cert/RA Nbr: 1-0X7LA-35-1

Manufacturer: Ametek M&G Products

Model Nbr: 90HG60

Date Calibrated: Feb 3, 2010

Next Calibration: Feb 3, 2011

Description: Mod Cal Pressure Module

Serial Nbr: M851680-2

ID Nbr: NONE

Calibration Proc: 1-AC06635-1

Item Received: In Tolerance

Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0X7LA-35-1

Temperature: 70°F / 21.1°C

Temp/RH Asset: 2993D

Relative Humidity: 30%

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025;2005. Accordited calibrations performed within the Lab's Scope of Accordination and indicated by the presence of the Accordinate Body's Lago and Conflicate Number on this Centificate of Calibration. Any measurements on an accordinate calibration not covered by that Lab's Scope are moted below. This report must not be used to obtain product certification, appropriat, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

Transcrited literature, as applicable, are performed in compliance with the requirements of ISO 900 tr2010, ISO TS16949, ANSI/NOSL Z540-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of 100FR21, 100FR50 App. 8 and NOA-1 are also covered.

Transcet will maintain and document the trace ability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMTs), or to measurable conditions erose of in our laboratory, or accepted finds mental and/or natural physical constants ratio type of calibration, or by comparison to conscensus standards. The specific path of recogniting for the reported measurement results is maintained at the Transcel facility and its appliable there for review.

Complete records of work perfermed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this report relate only to the item colibrated or tested, and the determination of in or out of talerance is specific to the medel/serial no, referenced above based on the minutacute of spublished specifications.

All calibrations have been performed using processes having a test uncertainty ratio of four or more times, greater than the unit calibrated, unless otherwise need on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k=2). Calibration is 4.1 TUR provides reasonable confidence that the instrument is within the manufacturer's published specifications. Limitations on the uses of this instrument are detailed in the manufacturer's operating instructions. Any number of factors can cause a unit, to drift out of tolerance attany time following, its calibrations. The reported uncertainty of the calibration process. For missisting instruments, add 0,6 of the least significant dright to the reported uncertainty to obtain the measurement uncertainty of the unit under tests of the specific point. For mass calibrations: Conventional mass referenced to 8,0 give.

Notes:

Assets 4

Manufacturer

Model

Description

Cal Date

Due Date

Traceability Numbers

O10172

Ruska Instruments Corp

7250xi

Pressure Calibrator

1/8/2010

7/31/2010

5-0X2G5-1-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Bill Pritchard Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Digitally Signed By Doug Urquhart for

Date: 2/3/2010 12:04:20 PM

Chris Herrmann Lab Manager

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Certificate - Page 1 of 1



CALIBRATION CERT#

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES. NY 12047-4697

Customer Nbr: 1-187790-000

PO Nor: 11861

Date Received: Jan 25, 2010

Cert/RA Nbr: 1-0X7LA-1-1

Manufacturer: Ametek M&G Products

Next Calibration: Feb 3, 2011

Date Calibrated: Feb 3, 2010

Model Nbr: 90HG26

Description: Pressure Module

Calibration Proc: 1-AC06635-1

Serial Nbr: M820590-4

ID Nor: NONE

Item Received: In Tolerance Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0X7LA-1-1

Temperature: 70.4°F / 21.3°C

Temp/RH Asset: 2993D

Relative Humidity: 38%

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025;2005. Accordited calibrations performed within the Lab's Scope of Accorditation are indicated by the presence of the Accorditing Body's Logs and Certificate Number on this Certificate of Calibration. Any measurements on an accordated calibration not covered by that Lab's Scope are noted below. This report must not be used to chim product certification, approval, or endorsement by NVLAP, AZLA, NIST, or any agency of the Federal Government.

icatea brators, as applicable, are performed in compliance with the requirements of ISO 9001:2000, ISO TS 16949, ANSINCSL 2340-1994, QS-9000 and ISO 18012-1992. When specified contractually, the requirements of ISO 9001:2000, ISO TS 16949, ANSINCSL 2340-1994, QS-9000 and ISO 18012-1992. When specified contractually, the requirements of ISO 9001:2000, ISO TS 16949, ANSINCSL 2340-1994, QS-9000 and ISO 18012-1992. When specified contractually, the requirements of ISO 9001:2000, ISO TS 16949, ANSINCSL 2340-1994, QS-9000 and ISO 18012-1992. When specified contractually, the requirements of ISO 9001:2000, ISO TS 16949, ANSINCSL 2340-1994, QS-9000 and ISO 18012-1992. 10CFR50 App. B and NQA-1 are also covered.

Transcatwill maintain and document the uncombility of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMI's), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of cultivation, or by comparison to consensus standards. The specific parts of recentility for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no, referenced above based on the manufacturer's published specifications

All calibrations have been performed using processes having a test uncertainty ratio of four or more times greater than the unit on them of the process of the vites of the vi

Notes:

Ass ets

Manufacturer

Model

Description

Cal Date

Due Date

Traceability Numbers

010172

Ruska Instruments Corp

7250xi

Pressure Calibrator

1/8/2010

7/31/2010

5-0X2G5-1-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Bill Pritchard

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Digitally Signed By Doug Urquhart for

Date: 2/3/2010 12:02:11 PM

Chris Herrmann Lab Manager

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F0013R21 8/06/2009 Certificate - Page 1 of 1



CALIBRATION CERT #

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 11861

Date Received: Jan 25, 2010

Cert/RA Nbr: 1-0X7LA-33-1

Manufacturer: Ametek M&G Products

Next Calibration: May 19, 2011

Date Calibrated: May 19, 2010

Model Nbr: 90C1

Description: Simulator, Module

Calibration Proc: 1-AC22125-2

Serial Nbr: M805460-1

ID Nor: NONE

Item Received: Operational Failure

Item Returned: In Tolerance

Unit Barcode: 900A2835186

For calibration data, see Supplemental Report for RA Nbr 1-0X7LA-33-1

Temperature: 72°F / 22.2°C

Temp/RH Asset: 2993b

Transpart Chilippilion, Laboraturies have been audited and found in exempliance with INCFIEC 1703-2005. Accredited calibrations performed within the Lab's Scope of Accreditations are faulte. Cultbration. Any presongeness on an accordited enthination rate oriented by that Lab's Scope are indeed below. This report must risk be used to claim product continuation, approval, or enaborate the continuation of

Trunscart colibrations, as againants, and performed in compilance with the requirements of ISO 9001;2000, ISO 7516949, ANSINCSL 2540-1994, QS-9900 and ISO 10112-1992. When specified contractually, the requirements of ISCFR21, IOCFR30 App. B and NQA-1 are also

Transcen will mediatal and decement the traceability of still its stendards to the National Institute of Simularids and Technology (NIST) or the National Research Council of Canada (NRC), or to inter recognized mational or international standard bodies (NMI's), or to measurable condition, exacted in our laboratory, or accepted fundamental ond/or natural physical constants; ratio type of collection, or by comparison to constants standards. The specific part of traceability for the reported measurement need to international materials in initiatized at this Transcat fieldly and is available there for review.

The custis in this repair reliationly to the item califorated on tweed, and the determination of item cost of tolerance in specific to the model/section on, referenced above based on the communications's published specifications.

All calibratives have been performed using processes buying a test upperfeiting ratio of fine or more times greater than the noit cultivated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at e-05 perfect occultivated at the instrument is within the manufactured published specifications. Limitations on the uses of this instrument are detailed in the manufactured e-pointing instructions. Any pumber of Society can cause a unit to drift out of followess at easy time following its cultivation. The reported uncertainty is the instrumental uncertainty in the cultivation process. For measuring instruments, odd 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test of the out of solven passes. For measuring instruments, and 0.6 of the least significant digit to the reported uncertainty as obtain the measurement uncertainty of the unit under test of the out of solven passes.

Notes:

This module was received in operational failure. The readings were too unstable to take any data. The module was sent to the factory for repair and than sent back to Transcat for as left data.

Assets

Manufacturer

<u>Model</u>

Description

Cal Date

Due Date

Traceability Numbers

2996

Agilent

3458A Opt002

Digital Multimeter

05/11/2010

11/30/2010

5-A30EL-1-I

Calibrated at;

35 Vantage Point Dr Rochester, NY 14624 By: Bill Pritchard

NEICVP1120E01

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Digitally Signed By Chris Herrmann

Date: 05/19/2010 10:02:45 PM

Chris Herrmann Lab Manager

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F0013R71 Nov2009 Certificate - Page 1 of 1



CALIBRATION CERT#

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 11861

Date Received: Jan 25, 2010

Cert/RA Nbr: 1-0X7LA-5-1

Manufacturer: Transmation

Model Nbr: 1062JK

Date Calibrated: Jan 29, 2010

Vext Calibration: Jan 29, 2011

Description: Thermocouple Calibrator

Serial Nbr: 6540201 ID Nor: NONE

Calibration Proc: 1-AC17451-1

item Received: In Tolerance Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0X7LA-5-1

Temperature: 71.6°F / 22°C

Temp/RH Asset: 2993B

Relative Humidity: 41%

Transcat Calibration Laboratories have been audiced and found in compliance with ISO/IEC 17025:2015. Accordited calibrations performed within the Lab's Scope of Accorditation are indicated by the presence of the According Body's Logo and Certificate Number on this Certificate of Califoration. Any measurements on an occredited califoration not covered by that Lab's Scope are noted before. This report must not be used to a bird product certification, approval, or endorsement by NVEAP, A2EA, NIST, or any agency of the Federal Government.

Trunca teation time, as a particative, are performed in compliance with the requirements of ISO 910 1/20111, ISO T\$ 16949, ANSIVINCSL 2546-1994, QS-9000 and ISO 10012-1992. When specified controctually, the requirements of 40CFR24, LOCFRSUA pp. B and NQA-1 are also covered,

Transcet will ministan and document the trace ability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized mitional or international standard bodies (NMI's), or to measurable conditions created in our laboratory, or occepted fundamental and/or natural physical constants ratio type of calibration, or by comparison to consensus standards. The specific path of viscosicility for the reported measurement results is maintained at the Transcatt facility and is available there for review.

Complete records of work performed are mainto incel by Transcat and are available for inspection. Laboratory standards used in the performance of this entition are shown below

The results in this report relate only to the from calibrated or tested, and the determination of in or out of tolerance is specific to the medel/serial no, referenced above based on the minufacturer's published specifications.

All calibrations have been performed using processes having a test uncertainty ratio of four or more times greater than the unit calibrated, unless officewise need on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence between the unit of the unit

Notes:

Assets	Manufacturer Fluke Corporation	<u>Model</u> SS20A	Description Multifunction Calibrator	<u>Cal Date</u> 6/4/2009	<u>Due Date</u> 1/31/2010	Traceability Numbers 5-0N6LN-I-1
JITCW-22	Omega Engineering, Inc.	Type-J	Thermocouple Extension Wire	7/5/2007	7/31/2099	6-&J1TCW-507-22
K1TCW-22	Omega Engineering, Inc.	Type-K	Thermocouple Extension Wire	7/5/2007	7/31/2099	6-&K1TCW-507-22

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Rajkumar K

Feellity Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720



Digitally Signed By Chris DeZutter for

Date: 1/29/2010 2:07:18 PM

Chris Herrmann Lab Manager

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F0013R21 8/06/2009 Certificate - Page I of I

TRANSCAT CALIBRATION SERVICES



CALIBRATION CERT # 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nor: 1-187790-000

PO Nbr: 12128

Date Received: Mar 22, 2010

Cert/RA Nbr: 1-A130B-1-1

Manufacturer: Transmation

Model Nbr: 1091-0

Date Calibrated: Mar 25, 2010

Next Calibration: Mar 25, 2011

Description: Pressure Flexitester

Serial Nbr: 6599902

ID Nor: NONE

Calibration Proc: 1-AC06519-5

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A130B-1-1

Temperature: 72.2°F/22.3°C

Temp/RH Asset: 2993B

Relative Humidity: 38%

Transact Calibration Laboratories have audited and found in compliance with ISO/IEC [7025:2005. Accredited collibration performed within the Lab's Scope of Accreditation are indicated by the prospect of the Accrediting Body's Logic and Certificate Nomber on this Certificate of Calibration. Any measurements on an accredited calibration, not covered by that Lab's Scope are noted below. Take report must not be used to claim product certification, approval, or endorsement by NVLAP, AZLA, NIST, or any agency of the Federal Converment.

Transcat tablications, as applicable, one performed in compliance with the requirements of ISO 9001:2000, ISO TE16949, ANSINCSI, 2540-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of IOCFR21, IOCFR20 App. B and NQA-1 are also ownered.

Transact will maintain and document the irreceptitity of all its standards in the Notional Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized authors or international standard hodies (NMI), or to measurable conditions control in our laboratory, or accepted fundamental anthor national physical contains, calletype of collyption, or by comparison to consume standards. The specific path of transactivity for the experted pressurement results is maintained at the Transact facility and is available there for review

Complete resurds of sturk performed one maintained by Transari and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this report relate only to the item cultivated or tested, and the theoretication of in or out of tolerance is specific to the model/section no. referenced above based on the manufacturer's published specifications.

All collibrations have been performed using processes leaving a test uncertainty ratio of four or more times greater than the unit subbroated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 55 percent confidence leaving the instrument is within the meaning-turner greater physical percentage confidence and the instrument is within the meaning-turner greater physical control of the instrument is within the meaning-turner greater grea

Notes:

Assets 10015 Manufacturer

Model

Description

Cal Date

Due Date

Traceability Numbers

1001.

Fluke Corporation

5520A

Multifunction Calibrator

02/09/2010

08/31/2010

5-0Y053-1-1

2996

Agilent

3458A Opt002

Digital Multimeter

09/09/2009

03/31/2010

5-0T76J-1-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Rajkumar K Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720 V)

Digitally Signed By Chris Herrmann Date: 03/25/2010 9:44:37 AM

Chris Herrmann Lab Manager

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Certificate - Page 1 of 1

TRANSCAT CALIBRATION SERVICES



CALIBRATION CERT # 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12316

Date Received: Apr 23, 2010

Cert/RA Nor: 1-A25G4-1-1

Manufacturer: Transmation

Model Nbr: 1091-0

Date Calibrated: Apr 27, 2010

Next Calibration: Apr 27, 2011

Description: Pressure Flexitester

Serial Nbr: C19004

D Nor: NONE

Unit Barcode: 900A2820072

Calibration Proc: 1-AC06519-5

Item Received: In Tolerance

Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A25G4-1-1

Temperature: 71.6°F / 22°C

Temp/RH Asset: 2993A

Relative Humidity: 32%

Transsal Chilination Laboratorical lave have available and found in compliance with SCHEC 17025;2005. Accredited calibrations performed within the Labba Scope of Accreditation are indicated by the presence of the Accreditate Body's Logo and Conflicate Number on this Certificate of Chilination. Any increasurants on an accredited by the presence of the Accreditate Body's Logo and Conflicate Number on this Certificate of Chilination. Any increasurants on an accredited by the presence of the Accreditate Body's Logo and Conflicate Number on this Certificate of Chilination.

Transcent estimations, as applicable, are performed in compliance with the requirements of ISO 9001.2000, ISO TS16949, ANSINCSL 2340-1994, QS-9000 and ISO 10012-1992. When appeiding contractually, the requirements of ICCFR21, ICCFR29 App. B and NQA-1 are also covered.

Transcent will maintain and document that transcability of all its standards on the National Institute of Standards and Technology (NIST) or the National Research Council of Council (NRC), or to other recognized institution international attendand bodies (NMIs), or to recognized under natural physical constants, ratio type of calibration, or by comparison to consumus shadards. The specific path of inecability for the reported greatsurement results is maintained at the Transcat facility and is eventable times for moving.

Complete records of work performed are maintained by Transcal and are available for impaction. Laboratory standards used in the performance of this collibration are shown below.

The results in this report relate only to the item cultivated or tested, and the determination of in or out of telerance is specific to the model/serial no, referenced above based on the manufacturer's published specifications.

All califordina have been performed uping processes having a test uncertainty unit of four or more times greater than the unit calibrated, when otherwise uneed on the Supplemental Report, Unseptibilise have been witnested at a 95 person considered level (e-2). Calibration as a 4-17 filt provides executable considered by the thir instrument is within the un-unsufficturies published aspectifications. Limitations use a 4-17 mean of the manufacturies published aspectifications. Limitation we use of this instrument are obtained in the manufacturies purpose of instrument can dear in the manufacturies purpose of instruments and sufficient of the manufacturies purpose of instruments and sufficient of the second in the manufacturies of purpose of instruments and sufficient of the manufacturies are sufficient or in the manufacturies of the sufficient of the calibration of the calibrat

Notes:

Traceability Numbers Manufacturer Model Description Cal Date Due Date Assets 10015 5520A Multifunction Calibrator 02/09/2010 08/31/2010 5-0Y053-1-1 Fluke Corporation Digital Multimeter 06/11/2009 06/30/2010 5-0Q2Y2-I-1 31190 3458A Opt002

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Rajkumar K Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720 V)

Digitally Signed By Bill Pritchard for Date: 04/28/2010 6:17:43 AM

Chris Herrmann Lab Manager

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Certificate - Page 1 of 1



CERTIFICATE OF CALIBRATION

CERTIFICATE NO.	300038931		•
CUSTOMER	R. L. STONE CO. INC.		
ASSET I.D. NO.	ABB - 060 - 3809	SERIAL	240097080 / Y011
MANUFACTURER	FISCHER & PORTER C	CO.	
MODEL NO.	55XC4000		

This equipment has been calibrated, under controlled conditions, and in accordance with manufacturer's documented procedures.

TEMPERATURE: $\pm 1^{\circ}$ C HUMIDITY: %R.H.

ABB, Inc. Instrument Division certifies that the above identified unit has been calibrated to meet or exceed its published specifications. Calibrations were performed using the standards listed below whose accuracies are traceable to the National Institute of Standards and Technology. A documented Quality Assurance Program is implemented at this facility meeting the requirements of ISO 9001, registered certification by Det norske Veritas (Certificate No. CERT-09170-2000-AQ-HOU-RvA/RAB). The metrology confirmation system for measuring equipment is operated to provide calibration services that conform to the intended requirements of ISO 10012-1 and ANSI Z540-1.

STANDARDS USED

<u>I.D. NO.</u>	MANUFACTURER	<u>MODEL</u>	CAL, DATE	DUE DATE
QCE-11	FLUKE	8505A	19 NOV 09	30 NOV 10
QCE-2693	EDC	CR103	22 FEB 10	28 FEB 11

PERFORMED BY: JIM KIRKPATRICK

DATE: 22 JUNE 2010

APPROVED BY: January Department

Denise Stanislawczyk, Manager Repair Department

This certification and attached data shall not be reproduced except in full without the written approval of ABB Inc.

ABB Inc.

Cohoes, New York

TRANSCAT CALIBRATION SERVICES



CALIBRATION CERT #

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12604

Date Received: Jun 22, 2010

Cert/RA Nbr: 1-A408X-1-1

Manufacturer: AEMC Instrument

Model Nbr: 4630 (2130.44)

Date Calibrated: Jun 23, 2010

Next Calibration: Jun 23, 2011

Description: Digital Ground, Resistance, Tester

Digital Ordana, Resistance, Tester

Calibration Proc: 1-AC08975-1

Serial Nbr: 158164 DE DV

ID Nor: NONE

Item Received: In Tolerance

Item Returned: In Tolerance

Unit Barcode: 001A0010840

For calibration data, see Supplemental Report for RA Nbr 1-A408X-1-1

Temperature: 71.6°F / 22°C

Temp/RH Asset: 2993B

Relative Humidity: 52%

Transport Collibration Educatories have been suction and found in compliance with ISO/ISC 17025;2005. Accordited cultivations performed within the Entry Scope of Administrated by the presence of the Administrating Body's Logic and Centificate Number on this Centificate of Collibration. Any measurements on an accirculated cultivation in covered by that Link's Scope are noted below. This report must not be used to delay needed centification, economically or endocespient by NVLAY, A2LA, NIST, it now agency of the Federal Covernment

Transcal calibrations, as applicable, are performed in compliance with the requirements of EO 9001:2000, EO TS10049, ANSINCEL 2540-1994, QS-9000 and EO 10012-1992. When specified contractedly, the requirements of EOFR21, 10CFR20 App. B and NQA-1 are also covered.

Transcut will institute and doctorpect the traceability of all its standards to the National Localitate of Standards and Technology (NIST) or the National Research Council of Cianada (NRC), pr to other recognized actional or interestional standards to the National Localitate or Standards and Technology (NIST) or the National Research Council of Cianada (NRC), pr to other recognized actional or interestional extinctional standards of NMIS), or to measurable constants, and tryle of calibration, or by companion to coassesses attacked. The specific path of impossibility for the reported quastrement results is maintained at the Transcast facility and is available there for received.

Complete receives of work performed are maintained by Transout and are available for imposition. Laboratory standards used in the performance of this collibration are shown below.

The results in this report relate only to the from collibrated or tested, and the determination of in or out of telepance is specific to the model/serial no, referenced above based on the manufacturer's published specifications.

All culibrations have been performed using processes having a test uncertainty ratio of four or more times greater than the unit collected, unless otherwise noted in the Supplimental Report, Uncertainties have been estimated at a 95 percent confidence level (x*2). Collection at a 4:1
11.8 possible confidence that the information is within the manufacturer's operating fustructions. Any number of factors can cause a unit to drift out of reference at any time stitlenting by calibration. The reported uncertainty is the uncertainty of the unit moder test at the specific paint. For mass calibrations: Curvatural uncertainty of the unit moder test at the specific paint. For mass calibrations: Curvatural uncertainty of the unit moder test at the specific paint. For mass calibrations: Curvatural uncertainty of the unit moder test at the specific paint. For mass

Notes:

Assets

Manufacturer

Model

Description

Cal Date

Due Date

Traceability Numbers

21575

Electro Scientific Industries

RS925A

Resistance Standard

06/07/2010

09/30/2010

1-&21575-2010-6

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Bo Gobeli Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720 VI,

Digitally Signed By Chris Herrmann

Date: 06/23/2010 4:56:53 PM

Chris Herrmann Lab Manager

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Certificate - Page 1 of 1



CALIBRATION CERT # 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12604

Date Received: Jun 22, 2010

Cert/RA Nbr: 1-A408X-3-1

Manufacturer: Fluke Corporation

Date Calibrated: Jun 28, 2010 Next Calibration: Jun 28, 2011

Model Nbr: 87

Description: True RMS Multimeter

Calibration Proc: 1-AC01549-12

Serial Nbr: 956500114

ID Nbr: NONE

Item Received: In Tolerance

Unit Barcode: 001A0027021

Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A408X-3-1

Temperature: 72°F/22.2°C

Temp/RH Asset: 2993b

Relative Humidity: 42%

tions performed within the Lab's Scope of Accreditation and not be used to claim product cartification, approval,

Transact californiums, as applicable, are performed in complicates with the requirements of ISO 9001:2000, ISO TR16949, ANSI/NCSL 2540-1994, QS-9000 and ISO 10012-1992. When specified econrectually, the requirements of ISCFR21, IOCFR30 App. D and NQA-1 are also

Transent will runintain and document the tracembility of all its standards to the National invitation of Standards and Technology (NIST) or the National Research Council of Canada (NIC), or to other recognized cartional or international almaland podies (NMIs), or to recognized cartional or international annual polyrical equations, or in recognized cartional or international annual polyrical equations, or to recognize distinct annual polyrical equations, or in recognized for the capture of the reported measurement results in insigning of the Transect facility and is available there for

The results in this report relate only to the item calibrated or jested, and the determination of in or out of tolerance is specific to the model/serial as, referenced above based on the munificturer's published specifications

All colibrations have been performed using processes having a test momentality unto of four or more times greater than the unit colibrated, unless otherwise moted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (e-2). Colibration at A-1 TUI, provides assessmalle confidence that the instrument is within the instrument is within the instrument is within the instrument and delicated assertance in any time following its colibration. The reported uncertainty is the uncertainty of the aditional process. For measuring instruments, add 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specific point. For measuring instruments, and 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specific point. For measuring instruments, and 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specific point. For measuring instruments, and 0.6 of the least significant digit to the reported uncertainty in obtain the measurement uncertainty of the unit under test at the specific point.

Notes:

Assets

Manufacturer.

Model

Option

Cal Date

Due Date

Traceability Numbers

2945

Fluke Corporation

5520A-SC1100

Multifunction Calibrator, w/Scope

03/15/2010

12/31/2010

5-A016N-1-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Rajkumar K

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Digitally Signed By Chris DeZutter for

Date: 06/28/2010 2:20:41 PM

Chris Herrmann Lab Manager

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F0013R21 3/06/2009 Certificate - Page 1 of 1



CALIBRATION CERT #

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12604

Date Received: Jun 22, 2010

Cert/RA Nbr: 1-A408X-2-1

Manufacturer: Transmation

Model Nbr: SS1410G

Date Calibrated: Jun 30, 2010

Next Calibration: Jun 30, 2011

Description: Module, Pressure

Calibration Proc: 1-AC07835-2

Serial Nbr: C19687 ID Nor: NONE

Item Received: In Tolerance

Item Returned: In Tolerance

Unit Barcode: 900A2821484

For calibration data, see Supplemental Report for RA Nbr 1-A408X-2-1

Temperature: 72°F / 22.2°C

Temp/RH Asset: 2993D

rith ISO/IEC 17025:1305. Accredited calibrations performed within the Lab's Scope of Accreditation at at Lab's Scope are noted below. This report must not be used to claim product certification, approval, or

replication with the requirements of USO 9001;2000, USO TS16949, ANSUNCSL Z540-1994, Q8-9000 and USO 11012-1992. When specified contractually, the requirements of OCFRZ1, 10CFR30 App. B and NQA-1 are also

nal lastitute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or inte ratio type of calibration, or by comparison to consumus standards. The specific path of insconbility for the reported measurement results is

following its culibration. The reported uncertainty is the uncertainty of the calibration culibration are reported uncertainty to the calibration culibrations: Conventional mass referenced to 8.0 g/cc.

Notes:

Assets

Manufacturer

Keithley Instruments

Model

Description

Cal Date

Due Date

Traceability Numbers

3016

2002

Digital Multimeter, 8.5 digit

05/04/2010

02/28/2011

5-A187X-1-1

010172

Ruska Instruments Corp

7250xi

Pressure Calibrator

05/05/2010

11/30/2010

5-A2747-1-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624

By: Bill Pritchard

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

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Date: 06/30/2010 4:26:51 PM

Chris Herrmann Lab Manager

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PROCEEDE 21 8/06/2009 Certificate - Page 1 of 1



CALIBRATION CERT#

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12696

Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-2-1

Manufacturer: National Basic Sensor

Model Nbr: 10-86-100-S-1-A-8-T-4"-W-SD27-Z

Date Calibrated: Jul 12, 2010 Next Calibration: Jul 12, 2011

Description: RTD Probe

Calibration Proc: 1-AC06896-1

Serial Nbr: 2285041

ID Nor: NONE

Unit Barcode: 900A3390017

Item Received: In Tolerance Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A453A-2-1

Temperature: 70°F / 21.1°C

Temp/RH Asset: 2993C

Relative Humidity: 46%

Transent Calibration Laboratories have been audited and found in compliance with ISC/IEC 17025:2005. Accordited calibrations performed within the Labby Scope of Accorditation.

Calibration. Any measurements on an accordited enforcing need covered by that Labby Scope are noted below. This report mass not be used to claim product carrillosion, upperval.

uments of ISO/9001;2000, ISO IS16949, ANSIACCE 2540-1994, QS-0000 and ISO 10012-1992. When specified contractually, the requirements of 10CFR21, 10CFR30 App. 2 and NQA-1 are also

Transent will muintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to except in our inhumancy, or accepted fundamental analysis natural physical equations, ratio 1990 of calibration, or by comparison to consensus standards. The specific path of traceability for the decision.

rils of work performed are maintained by Transcal unit are available for inspection. Laboratory standards used in the performance of this calibration are shown below

The results in this report relate only to the form cultivated or tested, and the determination of in or out of tolerance is specific to the model/actiol no, referenced above based on the true

All calibrations have been performed using processes having a lest uncertainty ratio of fiver or more times greater than the unit calibrated, unless otherwise noted on the Supplemental Report. Uncertainties TOR provides reasonable confidence that the instrument is within the many factory's published apositionitous. Linguisticus we than users of this instrument on detailed in the remarkatory's positing instruct following its output absence in accordance in the succeptainty of the cultivation process. For measuring featurements, add it.6 of the least significant digit to the reported motorisisty to obtain the many cultivation process.

Notes:

Assets Manufacturer Model Description Cal Date Due Date Traceability Number 2985 Hart Scientific 1560 Black Stack, Base Unit 01/29/2010 01/31/2011 1-&2985-2010-1	
2985 Hart Scientific 1560 Pleak Start Para Hair	
3053 Hart Scientific 2560 Module, SPRT, 2-Channel 09/08/2009 09/30/2010 6-0T12E-7-1	
3054 Hart Scientific 5628 Secondary Standard PRT 09/17/2009 09/30/2010 15-0T5KT-4-1	
31190 HP 3458A Opi002 Digital Multimeter 06/23/2010 06/30/2011 5-A386G-1-i	

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Patrick Whaten

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Digitally Signed By Chris Herrmann Date: 07/12/2010 10:44:38 PM

Chris Herrmann Lab Manager

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P0013R21 R002060 Certificate - Page 1 of 1



CALIBRATION CERT #

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12696 Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-9

Manufacturer: National Basic Sensor

Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 9, 2010 Next Calibration: Jul 9, 2011

Description: Thermocouple Probe, Type-K

Calibration Proc: 1-AC05852-2

Serial Nbr: 2285042 ID Nor: NONE

Item Received: In Tolerance Item Returned: In Tolerance

Unit Barcode: 900A3390020

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-9

Temperature: 70°F / 21.1°C

Temp/RH Asset: 2993C

and document the traceobility of all its granderds to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NISC), or to other recognized varianced or international standards and Technology (NIST) or the National Research Council of Canada (NISC), or to other recognized varianced or international

Complete records of work performed for maintained by Transcat and are oveilable for inspection. Laboratory standards used in the performance of title calibration are above below

The results in this report relate only to the form collibrated or tested, and the determination of its or out of tolerance is specific to the model/social no, referenced above based on the granuit

All cubinstinues have been performed using processes levying a test uncertainty ratio of four or more times greater than the unit cubinstant, unless relawaise noted on the Styphen 1943 provides reasonable, confidence that the instrument is within the manufacturer's published specifications. Limitations on the uses of this instrument are detailed in the manufacturer's published specifications. Limitations on the uses of this instrument are detailed in the manufacturer's published specifications. The required constraints of the uncertainty of the calibration process. For measuring instruments, add it of the least significant digit to the reported uncertaints in the calibration of the calibr

Notes:

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Assets	Manufacturer	<u>Model</u>	Description	Cal Date	Dire Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Patrick Whalen

NEICVP1120E01

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720



Digitally Signed By Chris Herrmann Date: 07/09/2010 3:26:05 PM

Chris Herrmann Lab Manager

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F0013R1| 8/66/2009 Certificate - Page 1 of 1



CALIBRATION CERT # 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12696

Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-8

Manufacturer: National Basic Sensor

Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 12, 2010

Next Calibration: Jul 12, 2011

Description: Thermocouple Probe, Type-K.

Calibration Proc: 1-AC05852-2

Serial Nbr: 2285043 ID Nor: NONE

Unit Barcode: 900A3390018

Item Received: In Tolerance Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-8

Temperature: 70°F / 21.1°C

Temp/RH Asset: 2993C

Transcal Calibration, Laboratories have been sudited and found in compliance with ISO/IEC 17025/2005. According estimated estimation performed within the Lab's Scape of According no indicated by the presence of the According Body's Lugo and Certificate Number on this Certification of Calibration. Any measurements as an according calibration up convered by that Lab's Scape are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or may agency of the Endorsh Government.

Transcal acflorations, as applicable, are performed in compliance with the requirements of ISO 9901:2000, ISO TS16949, ANSI/NCSL Z340-1994, QS-9000 and ISO 10012-1992. When specified contractedly, the requirements of IOCFR21, IOCFR59 App. B and NQA-1 are also obvered.

at will medianis and document the transchibility of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized entismel or international standard bodies (PAGN), or to measurable analysis and international standard and the natural physical contents, ratio 1776 of Californics, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is availabled in the Transport facility and its available there for

Complete research of work performed are remintained by Treasent and and available for inspection. Enterprop standards used in the performance of this cultivation are shown below.

The results in this report relate only to the item estibrated or tested, and the determination of in or out of tolerance in specific to the model/serial no, referenced above based on the manufacturer's public

All calibrations have been performed using processes having a tool uncertainty ratio of four or more times greater than the unit calibrated, actess observise noted on the Supplemental Repair. Uncertainties have 1'18 government are obtained in the transformer's exhibit the manufacturer's published giverifications. Limitations on the uses of this instrument are obtained in the remodesturer's operating instructions, influencing its calibration. The reported uncertainty is the uncertainty of the calibration process. For manufacting furthermore, add 0.6 of the least significant slight in the reported uncertainty to obtain the magnaturers calibrations. Converting the calibrations of investments and 0.6 of the least significant slight in the reported uncertainty to obtain the magnaturers. eptal Report. Coccretaties have to

Notes:

Assets	Manufacturer	Model	<u>Description</u>	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Patrick Whalen

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Digitally Signed By Chris DeZutter for

Date: 07/12/2010 11:05:45 AM

Chris Herrmann Lab Manager

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PROFIERS RESCRIPT Certificate - Page 1 of 1



CALIBRATION CERT # 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12696

Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-4

Manufacturer: National Basic Sensor

Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 9, 2010

Next Calibration: Jul 9, 2011

Description: Thermocouple Probe, Type-K.

Calibration Proc: 1-AC05852-2

Serial Nbr: 2285044

ID Nbr: NONE

Item Received: In Tolerance

Item Returned: In Tolerance

Unit Barcode: 900A3390021

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-4

Temperature: 70°F/21.1°C

Temp/RH Asset: 2993C

Relative Humidity: 51%

Transact Califfration Laboratories have been statified and found in compliance with ISO/IEC 17035-2005. According califfration performed within the Lab's Scope of According foot performed of the According Body's Lugo and Certificate Number on this Certificate of Califfration. Any measurements on all according califfration and contract of the According Body's Lugo and Certificate Number on this Certificate of Califfration. Any measurements on all according california california on contract by that Lab's Scope are noted below. This report must not be used to claim pendent certification, approved, or endoscencent by NVLAP, AZLA, NIST, or any agency of the Federal Coordinates.

Transact authorstions, as applicable, are performed in compliance with the requirements of ISO 9001:2000, ISO TS 10949, ANSUNCSL 2540-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of IOCFR2), 10CFR30 App. It and NQA-1 are also converte.

Transect will maintain and described the broombility of all its stepdards in the National Include of Steadards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or interactional standard bodies (NATs), or to measurable canaditions occased in our behaviory, or accepted fundamental ander natural physical constants, ratio type of calibration, or by comparison to consenses standards. The specific path of fraceability for the reported measurement results is maintained at the Transect Guilly and it evaluable there for review.

Complete records of work performed are maintained by Transent and are available for inspection. Laboratory standards used in the performance of this collibration are abown below.

The results in this separa point only to the item configurated or tested, and the deterministion of in or out of tolerance is specific to the model/serial no. referenced above based on the annualisatorer's published specifications.

All cultivations have been performed using processes having a lost discertainty ratio of four or more times greater than the unit cultivated, pulses otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (ke*2). Childration at a 4-1 TRR provides recentable southforce that the instrument is within the menufactories published specifications. Limitations on the uses of this instrument we detailed in the recombination for the provided instrument or flowers on the same and the defined of the transfer of the confidence of the confid

Nates:

Assets	Manufacturer	Model	<u>Description</u>	Cal Date	Due Date	Traceability Numbers	
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1	
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1	
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1	
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1	

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Patrick Whalen

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Digitally Signed By Chris Herrmann

Date: 07/09/2010 3:27:42 PM

Chris Herrmann Lab Manager

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F00131021 NAIA/2009 Certificate - Page 1 of 1



CALIBRATION CERT# 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12696

Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-7

Manufacturer: National Basic Sensor

Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 9, 2010

Next Calibration: Jul 9, 2011

Description: Thermocouple Probe, Type-K.

Calibration Proc: 1-AC05852-2

Serial Nbr: 2285045 ID Nor: NONE

Item Received: In Tolerance Item Returned: In Tolerance

Unit Barcode: 900A3390022

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-7

Temperature: 70°F / 21.1°C

Temp/RH Asset: 2993C

Transport Childration: Laboratories have been middled and found in exceptioned with ESO/IEC 17025;2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Budy's Lago and Certificate Number on this Certificate and Collibrations. Any measurements on an accredited subtraction and control of the Pederal Government.

Transcat entitlessions, an applicable, one performed in compliance with the requirements of ISO 9501:2000, ISO TS16349, ANSIANCSL 2540-1994, QS-9000 and ISO 16012-1992. When specified contractably, the requirements of ISO 9501:2000, ISO TS16349, ANSIANCSL 2540-1994, QS-9000 and ISO 16012-1992. When specified contractably, the requirements of ISO 9501:2000, ISO TS16349, ANSIANCSL 2540-1994, QS-9000 and ISO 16012-1992. When specified contractably, the requirements of ISO 9501:2000, ISO TS16349, ANSIANCSL 2540-1994, QS-9000 and ISO 16012-1992. When specified contractably, the requirements of ISO 9501:2000, ISO TS16349, ANSIANCSL 2540-1994, QS-9000 and ISO 16012-1992. When specified contractably, the requirements of ISO 9501:2000, ISO TS16349, ANSIANCSL 2540-1994, QS-9000 and ISO 16012-1992. When specified contractably, the requirements of ISO 9501:2000, ISO TS16349, ANSIANCSL 2540-1994, QS-9000 and ISO 16012-1992. When specified contractably, the requirements of ISO 9501:2000, ISO TS16349, ANSIANCSL 2540-1994, QS-9000 and ISO 16012-1992.

Temporar will, remintal, and document the troughfulty of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NAI's), or to measurable constaints, created in our behaviour, or accepted final amount and or natural physical constaints, ratio type of epithention, or by comparison to companies standards. The specific path of traceability for the reported measurement resetts is maintained at the Transcal facility and is symilable there for review

Complete records of work performed one maintained by Transest and are available for inspection. Laboratory standards used in the performance of this radioration are shown below

The results in this report relats only to this item calibrated or tested, and the determination of in or out of tislerance is specific to the undeliberal no referenced above based on the remained

All calibrations have been performed using processes having a test oncertalary ratio of four or more times greater than the unit calibrated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 pericent confidence level (k-2). Calibration at a 4:1 TUR, provides reasonable confidence test the instrument in within the monabeturery published specifications. Limitations on the uses of this instrument are detailed in the manufacturer's operating instructions. Any number of factors can cause of unit to drift out of tolerance at any from following its calibration. The reported uncertainty is the uncertainty of the calibration process. For measuring instruments, add 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test of the specific point. For quast-calibrations: Outcomes are referenced to 8.0 pec.

Notes:

Assets	Manufacturer	Model	Description	Cal Date	<u>Due Date</u>	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1
3055	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-1-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Patrick Whalen

NEICVP1120E01

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

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Chris Herrmann Lab Manager

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1900DR31 8062009 Certificate - Page 1 of 1

*CALIBRATION SERVICES



CALIBRATION CERT# 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12696

Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-3

Manufacturer: National Basic Sensor

Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 9, 2010 Next Calibration: Jul 9, 2011

Description: Thermocouple Probe, Type-K.

Calibration Proc: 1-AC05852-2

Serial Nbr: 2285046

ID Nor: NONE

Item Received: In Tolerance Item Returned: In Tolerance

Unit Barcode: 900A3390023

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-3

Temperature: 70°F / 21.1°C

Temp/RH Asset: 2993C

Transcut Chiliteration Luberatories have been madred and found in compliance with ISO/IEC 17025/2005. Accordited endbrations performed within the Lab's Scope of Accordingles are in Chiliteration. Any tennamentments up an accredited calibration not covered by that Lativ Scope are noted below. This report must not be used to claim product cardination, approved, or on

Transact estitutions, as applicable, are performed in compliance with the requirements of ISO 9001:2000, ISO TS 16949, ANSINCSL ZS40-1994, QS-0000 and ISO 10012-1992. When specified contractually, the requirements of IOCFR21, IOCFR20 App. 8 and NOA-1 are also covered.

Transcer will maintain and described the frequestiffy of all the standards to the Notional Institute of Standards and Technology (NST) or the National Research Council of Canoda (NRC), or to other recognized national set international standards hodges (NM's), as to measurable candidates careful on our habbraianty, or eccepted fundamental analysis natural physical constants, ratio type of calibration, or by comparison to consumes standards. The specific polls of tracestability for the reported measurement results is undistained at the Transcent Limits and a available there for review.

Complete records of wirk performed any maintained by Transcal and ers available for impaction. Laboratory standards used in the performance of this cationalism are shown below

The results in this report require only to the firm calibrated or tested, and the determination of in or out of folerance it specific to the model/sortal no. referenced above based on the manufacturer's jublished specifications

All cultivations have been performed using processes baxing a lest uncertainty ratio of four or more times greater than the unit cultivated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level [1-2]. Cultivation at a 4.7 TUR provider reasonable confidence unfortable to the instrument of sufficient the unauthorized to the instrument of sufficient the unauthorized to the instrument of sufficient the unauthorized to the instrument of sufficient the unauthorized to the instrument of sufficient the unauthorized to the instrument of sufficient the unauthorized to the unauthorized

Notes:

Assets	Manufacturer	Model	<u>Description</u>	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Patrick Whalen

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

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Chris Herrmann Lab Manager

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F0013R21-8/06/2009 Certificate - Page I of I



CALIBRATION CERT # 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12696

Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-1

Manufacturer: National Basic Sensor

Date Calibrated: Jul 9, 2010 Next Calibration: Jul 9, 2011

Model Nor: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Description: Thermocouple Probe, Type-K

Calibration Proc: 1-AC05852-2

Serial Nor: 2285047

ID Nor: NONE

Item Received: In Tolerance

Item Returned: In Tolerance

Unit Barcode: 900A3390024

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-1

Temperature: 70°F / 21.1°C

Temp/RH Asset: 2993C

Transcul Childretines Laboratories have been endired and futual in samphanes with ISO/IEC 17025;2015. Accredited cultivarious performed within the Lab's Scope of Accreditmin are indicated by the presence of the Accrediting Dody's Loga and Certificate Number to thir Certification. Any necessary and accredition on a secretic cultivarious of the Accrediting Dody's Loga and Certificate Number to thir Certification. Any necessary are not accredited cultivarious of the Accrediting Dody's Loga and Certification Number to thir Certification. Any necessary are not accredited cultivarious of the Accrediting Dody's Loga and Certification Number to thir Certification. Any necessary are not accredited and the number of the Accredition Number to thir Certification. Any necessary are not accredited and the number of the Accredition Number to thir Certification. Any necessary are not accredited and the number of the Accredition Number to thir Certification.

**Continuous Number of Number

Transcal calibrations, as applicable, are performed in compliance with the requirements of ISO 9601/2009, ISO TS16949, ANSIACSL Z540-1994, QS-9009 and ISO 10012-1992. When specified engineerically, the requirements of IOCFR21, IOCFR39 App. B and NQA-1 are also covered.

Tritional will maintain and document the traceability of all its standards to the National [nativate of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMCs), or to magnetic or international analyse maintenance and the account of the reported measurement analyse maintenance at the Transcal facility and is explicible there for

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this report relate only to the stem calibrated or tested, and the determination of its or put of loterance is specific to the model/serial no. referenced above based on the menufacturer's published specifications.

All additions three been performed using processes having at test unpertainty ratio of four or more times greater than the unit collorated, unless otherwise noted on the Supplemental Report. Uncertainties here been estimated at a 97 percent confidence level (k-1), Cultivations on the use's of this feature and of the collection of the use's of this feature and of the collection in the measurement as which the measurement as which the measurement as extended under the measurement as extended under the measurement as extended under the measurement as extended under the measurement as extended under the measurement as extended under the measurement as extended under the measurement as extended under the analysis of the unit under test at the specific point. For miss collisions of the collisions of the collisions of the unit under the state of the specific point. For miss collisions of the unit under the state of the specific point.

Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
.3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Galibrated at:

¥.

35 Vantage Point Dr Rochester, NY 14624 By: Patrick Whalen

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

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Chris Herrmann Lab Manager

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10013821 8/06/2009 Certificate - Page 1 of 1



CALIBRATION CERT #

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12696

Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-I-5

Manufacturer: National Basic Sensor

Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 9, 2010

Next Calibration: Jul 9, 2011

Description: Thermocouple Probe, Type-K.

Calibration Proc: 1-AC05852-2

Serial Nbr: 2285049 DO Nor: NONE

Item Received: In Tolerance

Item Returned: In Tolerance

Unit Barcode: 900A3390019

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-5

Temp/RH Asset: 2993C

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Transport estimations, as applicable, are performed in compliance with the requirements of ISO 9001:2000, ISO TS 6949, ANSINCSL 2540-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of IBCFR21, (ICCFR30 App. B and NGA-1 are absolute

ministry of the Annal descripting the transcalility of all in standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Causia (NRC), or to other recognized unafonal or international attended Research (PMI's), or to universality or a construction of the Causia (NRC), or to other recognized unafonal or international attended Research (PMI's), or to universality or a construction of the Causia (NRC), or to other recognized unafonal or international attended Research (PMI's), or to universality or the reported international attended in the Transcat facility and is available there for

The ensults in this report relate only to the item califyrated or tested, and the determination of in or out affairmed in specific to the model/sected no. referenced above based on the manufacturer's published specification

All calibrations have been performed using prisenses leaving a test uncertainty and of four or more times predict than the unit calibrated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k-2). Calibration of a 2-1. TRR privales recessionly confidence than the instrument is within the measurement is within the measurement is within the measurement is within the measurement is uncertainty of the calibration. Law percentage is calibration. The reported uncertainty is the uncertainty of the unit under test at the specific point. For mass undifficulties to uncertainty and that is a uncertainty of the unit under test at the specific point. For mass undifficulties to uncertainty and that is a proposed to Rif yet.

Notes:

Acoste	Manufacturer	<u>Model</u>	Description	Cal Date	Due Date	Traceability Numbers
Assets	manufacturer	MIOGEL			•——	
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Patrick Whalen:

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720



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Chris Herrmann Lab Manager

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F0013R21 8/06/2009 Certificate - Page 1 of 1

TRANSCAT CALIBRATION SERVICES



CALIBRATION CERT# 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12696

Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-6

Manufacturer: National Basic Sensor

Model Nbr: 6C-K-I-83-8-R-13.5-W-SD34-Z

Date Calibrated: Jul 12, 2010

Next Calibration: Jul 12, 2011

Description: Thermocouple Probe, Type-K

THEITHOCOUPIE LIONE, TAPC-IX

Calibration Proc: 1-AC05852-2

Serial Nbr: 22712076

ID Nhr: NONE
Unit Barcode: 001A0012590

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-6

Temperature: 70°F / 21.1°

Temp/RH Asset: 2993C

Relative Humidity: 42%

Transcar Chileration Lateonteries have been sudited and formed in compliance with ISO/IEC 17025/2005. According to this Continue performed within the Lab's Scope of Accordingtion are indicated by the presence of the According Body's Lage and Continues to this Continue of Cultivaries. Any according to an according to the presence of the According Body's Lage and Continues to this Continue of Cultivaries. Any according to an according to the According Body's Lage and Continues to this Continue of Cultivaries. Any according to the According Body's Lage and Continues to the Accordi

Transcent arbitrariums, as applicable, are performed in compliance with the requirements of ISO 9301;2000, ISO TS16949, ANSINCSL Z540-1994, QS-9000 and ISO 10012-1992. When specified contractually, the exquirements of ISCFR21, 19CFR20 App. B and NQA-1 are also convent.

Transport will melitrate and document the traceability of all its standards to the Notional Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to order recognized autional or interactional standards bedien (NMIS), or to measurable conditions created in our laboratory, or necepted fundamental public natural physical constants, nationals, nation type of collaboratory, or necepted fundamental public natural physical constants, nationals, nation type of collaboratory or necepted fundamental public natural physical constants (solid year) is available there for necessary or necepted fundamental public natural physical constants (solid year) is available there for necessary or necepted fundamental public natural physical constants.

Complete records of work performed are mointained by Transcar and are available for inspection. Liboquitory standards used in the performance of this cultivation are shown below

The results in this report relate unity to the item calibrated be tooled, and the determination of in or out of tolerance is specific to the model/unital na. referenced above based on the manufacturer's published specifications.

All collimations have been performed using processes fraving a test (inscripinty into of four-or more times greater than the unit collibrated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k-2). Calibration at a 4-2 T.R. provides recombile confidence that the instrument is within the magnifecturer's published specifications. Limitations on the uses of this instrument are datasted in the magnifecturer's operating instruments. Any number of factors can cause a until to will out of tolerance at any time (inflowing its cultivation. The reported uncertainty is the uncertainty of the cultivation process. For measuring instruments, add 0.6 of the leng significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under rest at the specific point. For measuring calibrations, of proc.

Notes:

Assets	Manufacturer	Model	<u>Description</u>	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	I-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Patrick Whalen Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720 Ø

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Date: 07/12/2010 11:05:09 AM

Chris Herrmann Lab Manager

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POSISREL AND JUNE 2

Calibration



CALIBRATION CERT# 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12696

Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-2

Manufacturer: National Basic Sensor

Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 9, 2010 Next Calibration: Jul 9, 2011

Description: Thermocouple Probe, Type-K

Calibration Proc: 1-AC05852-2

Serial Nbr: 221212082

D Nbr: NONE

Item Received: In Tolerance

Item Returned: In Tolerance

Unit Barcode: 001A0033057

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-2

Temperature: 70°F / 21.1°C

Temp/RH Asset: 2993C

Relative Humidity: 51%

with (SCAISC 17025:2005. Accordited calibrations performed within the Lab's Scope of Accorditation are indicated by the presence of the Accorditing Body's Logo and Certificate Number on this Cortificate of that Lab's Scope are noted below. This report must not be used to elaim product certification, approval, or underscript by NVLAY, AZLA, MST, or any agency of the Federal Government.

Transport Carlibrations, or applicable, are performed in compliance with the requirements of ISO 9001:3000, ISO TS16949, ANSIANUSI, 2540-1994, QS-9000 and ISO 10012-1992: When appendide contractually, the requirements of IOCFR21, IOCFR20 App. B and NQA-1 are also

Transcent will maintain and decoupted the transcability of all its standards to the Notional Institute of Standards and Technology (NIST) or the National Research Council of Chanda (NRC), or to other recognized national at international standard besides (NMIS), or to measurable unadificus created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to decentuals standards. The specific path of transcability for the reported measurement requise is manifested at the Transcab facility and is available there for

Complete neurals of work performed are maintained by Transcal and are available for inspection. Laboratory standards used in the performance of this collision are above, below.

The results in this report relate only to the item calibrited ar tested, and the determination of in or out of toterace is specific to the mandefourtal no, referenced above based, out the translated report published specifications.

All calibrations have been performed using processes having a test uncertainty ratio of four or more times grower than the unit calibrated, unless otherwise noted on the Supplemental Report; Uncertainties have been estimated at a 95 percent confident IDR provides received to eighther the instrument are decided in the manufactured operating derivations. Any number of factors can cause a unfoldering its mall-testion. The reported uncertainty is the manufactured operating derivations. Any number of factors can cause a unfoldering its mall-testion. The reported uncertainty is the manufactured to the manufactured of the multiple that are instrument and 0.6 of the least significant digit to the reported uncertainty to obtain the manufactured in the uncertainty of the unit budget to a calibrations. Convenienced in all give.

Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Patrick Whalen

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Digitally Signed By Chris Herrmann Date: 07/09/2010 3:27:15 PM

Chris Herrmann

Lab Manager

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190013821 8/06/2009

Certificate - Page 1 of 1



CALIBRATION CERT# 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12785

Date Received: Jul 23, 2010

Cert/RA Nbr: 1-A51Z7-1-1

Manufacturer: National Basic Sensor

Model Nbr: 6C-K-I-83-8-R-13.5-W-SD34-Z

Date Calibrated: Aug 2, 2010

Next Calibration: Aug 2, 2011

Description: Thermocouple Probe, Type-K

Calibration Proc: 1-AC05852-2

Serial Nbr: 22712077

ID Nbr: NONE

Item Received: In Tolerance Item Returned: In Tolerance

Unit Barcode: 001A0012591

For calibration data, see Supplemental Report for RA Nbr 1-A51Z7-1-1

Temperature: 70°F / 21.1°C

Temp/RH Asset: 2993C

Relative Humidity: 47%

Accredited culibrations performed within the Lab's Scope of Accreditation or clow. This report most not be used to claim product certification, approval, or

Transact extilencions, as applicable, are performed in compliance with the requirements of 1907/990/2009, ISO TS 10649, ANSINCSI, 2540-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of 10CFR21, 10CFR50 App. B and NQA-1 are also

Transcal, will maintain and document the traceshility of all its standards and the Majoral Institute of Standards and Technology (NIST) or the National Ressurch Council of Canada (NRC), or to other recognized material or international attendand hodies (NMS), or to excepted fundamental and/or estural physical eigestants, ratio type of cultivation, or by comparison to iconsensor attendands. The specific path of traceshility for the reported memorement results is maintained at the Transcat facility and is

Notes:

Assets	Manufacturer	<u>Madel</u>	Description	Cal Date	Doe Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	L5-0T5KT-4-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Patrick Whalen

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Digitally Signed By Sean Frys for Date: 08/02/2010 4:26:18 PM

Chris Herrmann Lab Manager

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P0013821 8-06/2009 Certificate - Page 1 of 1

TRANSCAT® CALIBRATION SERVICES



CALIBRATION CERT #

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12785

Date Received: Jul 23, 2010

Cert/RA Nbr: 1-A51Z7-3-1

Manufacturer: AVO

Model Nbr: 359986

Date Calibrated: Jul 28, 2010 Next Calibration: Jul 28, 2011

vext Cambradon: Jul 20, 201

Description: Tachometer Photo

Serial Nbr: 2097.206086

ID Nor: NONE

Unit Barcode: 001A0013189

Calibration Proc: 1-AC09988-2

Item Received: In Tolerance

Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A51Z7-3-1

Temperature: 72.2°F / 22.3°C

Temp/RH Asset: 2993B

Relative Humidity: 48%

Transcat Colibertion Laboratories have been enabled and found in compliance with ISO/IEC 1702X2005. Accredited colibertions performed within the Lab's Scope of Accreditation are indicated by the presence of the Accreditation and covered by that Lab's Scope are used below. This report must not be used to claim product certification, approval, or understanded by NVLAP, AZLA, NIST, or any agency of the Federal Government.

Transcent calibrations, as applicable, any performed in compliance with the experiencents of ISO 9001:2900, IEO TS16949, ANSIANCSL ZS40-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of IOCFI21, IOCFI20 App. B and NQA-1 are also converted.

Trusted will printing and document the traceability of all its standards to the National Institute of Standards and Technology (NST) or the National Resource Council of Canada (NRC), or to other recognized actional or infernational standard bodies (NMIV), or to recognized actional or action of the province of the pro

Complete recents of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below

The results in this export relate only in the item calibrated in tested, zipl the determination of in or out of telerance is specifie to the model/detial not referenced above based on the amonthater is published specifications.

All calibrations have been performed using processes buying a test recordingly ratio of four or more three greater than the tail calibrated, unless otherwise nated on the Supplemental Report. Ducurtainties have been estimated at a 9.5 percent confidence level (e-2). Calibration at a 4.1 This precides measurable calibrated individual bindering that within the remarked recording published apost flexions can exame a unit to drill out of indexesses at any time following its arithmetical supercising is the reported supercising for the territorial published supercising for the reported supercising for the territorial published supercising for the supplies of the supercising for the supercising for the supercising for the supercising for the supercising for the supercising for the supercising for the supercising for the supercising for the supercising for the supercising for the supercision for the supercising for the supercision for the s

Notes:

Assets	Monufacturer	<u>Model</u>	<u>Description</u>	Cal Date	Due Date	Traceability Numbers
2805	Fluke Corporation	910R	GPS-Controlled Frequency Stand	03/27/2001	03/27/2011	SM780614
3008	Agilent Technologies	33250A	Function / Arbitrary, Waveform, Generator, 80 MHz	02/23/2010	02/28/2011	33-A03V0-1-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Joe Stagnitta Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720



Digitally Signed By Sean Frys for Date: 07/28/2010 3:39:35 PM

Chris Herrmann Lab Manager

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RESTRICTED - Page 1 of 1

Calibration



CALIBRATION CERT #

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12785

Date Received: Jul 23, 2010

Cert/RA Nbr: 1-A51Z7-2-1

Manufacturer: Fluke Corporation

Date Calibrated: Aug 2, 2010

Model Nbr: 97

Next Calibration: Aug 2, 2011

Description: Scopemeter, 50 MHz

Calibration Proc: 1-AC06608-4

Serial Nbr: DM6041270

Item Received: In Tolerance

m Nbr: None

Item Returned: In Tolerance

Unit Barcode: 900A2821485

For calibration data, see Supplemental Report for RA Nbr 1-A51Z7-2-1

Temperature: 71.6°F / 22°C

Temp/RH Asset: 2993B

Relative Humidity: 49%

The results in this report relate only in the item collisated or tested, and the determination of in or out of tolerance is specific to the model/script and referenced above based on the manufacturer's published specifications.

All cultivations have been performed using processes having a lest encertainty ratio of flori or more times greater than the unit cultivated, orders otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 25 percent confidence let the instrument is within the maintifucturer's published specifications. Limitations to the new of this fortunered we detailed in the reconfidence that the instrument is within the maintifucturer's published specifications. Limitations to the new of this fortunered we detailed in the reconfidence that the instrument is written as a unit to difference at a first fortunered as a part of the confidence that the appoint of the confidence o

Notes:

Assets.

Manufacturer

Model.

Description

Option

Cal Date

Due Date

Traceability Numbers

2805

Fluke Corporation

910R

GPS-Controlled Frequency Stand

03/27/2001

03/27/2011

SM780614

2045

Fluke Corporation

5520A-SC1100

Multifunction Calibrator, w/Scope

03/15/2010

12/31/2010

5-A016N-1-1

Callbrated at:

35 Vantage Point Dr Rochester, NY 14624

By: Dean Tyler

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720



Digitally Signed By Doug Urquhart for

Date: 08/03/2010 6:24:08 AM

Chris Herrmann Lab Manager

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P00/3821 8/06/2009 Certificate - Page 1 of 1

877 1477

Calibration



CALIBRATION CERT#

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12785

Date Received: Aug 10, 2010

Cert/RA Nbr: 1-A54F4-2-1

Manufacturer: Fluke Corporation

Date Calibrated: Aug 11, 2010

Model Nbr: 77 IV

Next Calibration: Aug 11, 2011

Description: Digital Multimeter

Calibration Proc: 1-AC04959-1

Serial Nbr: 13930061

Item Received: In Tolerance

ID Nor: NONE

Item Returned: In Tolerance

Unit Barcode: 001A0055045

For calibration data, see Supplemental Report for RA Nbr 1-A54F4-2-1

Temperature: 72.2°F / 22.3°C

Temp/RH Asset: 2993B

Relative Humidity: 50%

005. Accredited ealthestoes performed within the Lab's Senpe of Accreditation are indicated by ted below. This seport must not be used to elaba product certification, approved, or endorsement

Transcent extilizations, as applicable, are performed in compliance with the requirements of ISO 9001:2000, ISO TS16949, ANSUNCSL 2540-1994, QS-9000 and ISO 16012-1992. When specified continuously, the requirements of ISC 7621, 10CFR30 App. B and NCA-1 are also

Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Consula (NRC), or to other recognized national or international standard hodies (NM's), or to created in our laboratory, or eccepted fundamental and/or natural payrical constants, ratio type of califeration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results in maintained at the Transcast facility and its consensus standards.

Complete records of work performed are maintained by Transcut and are available for inspection. Laboratory standards used in the performance of this calibration are shown below

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/acrisi no, referenced above based on the manufacturer's published specifications.

All calibrations have been performed using processes having a test successionly ratio of four or more times greater than the unit calibrated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence fewel (2-3). Calibrations at a 4:1
TUR, provider reasonable confidence that the instrument is within the manufacturer's pixhibbed specifications, or the uses of this instrument are decided in the manufacturer's operating instruments. Any nimber of Sectors can cause a unit to that our of reference of why this calibration. The reported uncertainty is the uncertainty of the unit under test at the specific point. For most
calibrations that are referenced to 6.0 gigo.

Notes:

Assets |

<u>Manufacturer</u>

Model

Description

Traceability Numbers

10015

Fluke Corporation

5520A

Multifunction Calibrator

07/08/2010

01/31/2011

5-A42W9-1-1

Callbrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Rajkumar K

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Digitally Signed By Chris Herrmann

Date: 08/11/2010 5:45:51 PM

Chris Herrmann Lab Manager

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T0013R31 8/06/2009 Certificate - Page 1 of 1



CALIBRATION CERT#

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr: 12785

Date Received: Aug 6, 2010

Cert/RA Nbr: 1-A55UE-30-1

Manufacturer: Fluke Corporation

Next Calibration:

Date Calibrated: Aug 11, 2010

Model Nor: 334

Description: Clamp-On Meter

Calibration Proc: 1-AC14346-0

Serial Nor: 13000087

ID Nor: NONE

Item Received: In Tolerance

Item Returned: In Tolerance

Unit Barcode: 001A0054961

For calibration data, see Supplemental Report for RA Nbr 1-A55UE-30-1

Temperature: 71.6°F / 22°C

Temp/RH Asset: 2993B

Relative Humidity: 48%

Trunsiant estimentions, are applicable, are performed in complisince with the requirements of ISO 9801:2500, ISO 1816-99, ANSIANCSL 2540-1994, QS-5600 and ISO 10012-1992. When specified contrachally, the requirements of ISC 9801:2500, ISO 9801:2500, ISO 1816-99, ANSIANCSL 2540-1994, QS-5600 and ISO 10012-1992. When specified contrachally, the requirements of ISC 9801:2500, ISO 9801:2500, ISO 1816-99, ANSIANCSL 2540-1994, QS-5600 and ISO 10012-1992. When specified contrachally, the requirements of ISC 9801:2500, ISO 9801:2500, ISO 1816-99, ANSIANCSL 2540-1994, QS-5600 and ISO 10012-1992. When specified contrachally, the requirements of ISC 9801:2500, ISO 9801:2500, ISO 1816-99, ANSIANCSL 2540-1994, QS-5600 and ISO 10012-1992. When specified contrachally, the requirements of ISC 9801:2500, ISO 1816-99, ANSIANCSL 2540-1994, QS-5600 and ISO 10012-1992. When specified contrachally, the requirements of ISC 9801:2500, ISO 1816-99, ANSIANCSL 2540-1994, QS-5600 and ISO 10012-1992. When specified contrachally, the requirements of ISC 9801:2500, ISO 1816-99, ANSIANCSL 2540-1994, QS-5600 and ISO 1801-1992. When specified contrachally, the requirements of ISC 9801:2500, ISO 1816-99, ANSIANCSL 2540-1994, QS-5600 and ISO 1801-1992. When specified contrachally, the requirements of ISC 9801-2500, ISO 1801-1994, ANSIANCSL 2540-1994, ANSIANCSL 2540-1

nds to the National Institute of Standards and Yechandayy (NIST) or the National Research Council of Camida (NRC), or to other recognized national or international standard bodies (NMIS), or in measurable canditions spiral candidates, and to the Camida of the Camida o

Notes:

Assets

10015

3027

Manufacturer

Fluke Corporation

Fluke Corporation

Model 5520A

5500A/Coil

Description

Multifunction Calibrator

50 Turn Current Coil

Cal Date

Due Date

Traceability Numbers

07/08/2010 10/17/2007

01/31/2011 10/31/2017 5-A42W9-1-L 5-V680B-1-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 By: Rajkumar K

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Digitally Signed By Chris Herrmann

Date: 08/11/2010 5:44:10 PM

Chris Herrmann Lab Manager

Reprinted on 08/17/2010

F8013R21 8/06/2009

Certificate - Page 1 of 1



4 Dart Road Shenandoah Industrial Park Newnan, Ga. 30265-1040

Phone 770 254-0400 Fax 770 254-0928 www.us.yokogawa.com

Yewflo Service Calibration Certificate

Equipment Model Number:	DY050-NBMBA1-2N/FF1		
Equipment Serial Number:	3353B031		
Date Calibrated:	September 7, 2010		
Customer PO#:	12989		
Order#:	N69947		
Tag Number:	N/A		
Cali	tration Equipment Used:	1	
Description	Model Number	Serial Number	
Digital MultiMeter 25	502A	2502GA039	
Frequency Counter T	C110	91EB17520	
Density Converter D	M8C-A1*A	8556DA036	
Density Detector V	D6D-S3*B	8551DA025	

Yokogawa Corporation of America does hereby certify that the above listed instrument meets or exceeds all published specifications and has been tested in accordance with local standard ASME MFC-6M-1998 using standards whose accuracies are traceable to NIST (National Institute of Standard and Technology), formerly NBS.

Supporting documentation is on file.

Prepared by: Sabrina Newton

Certificate Date: September 9, 2010 11:56 AM



Yokogawa Corporation of America 4 Dart Road Shenandoah Industrial Park Newnan, Ga. 30265-1040 Phone 770 254-0400 Fax 770 254-0928 www.us.yokogawa.com

Yewflo Service Calibration Certificate

Equipment Model Number:	DY050-NBMBA1-2N/FF1	
Equipment Serial Number:	3353B032	
Date Calibrated:	August 3, 2010	
Customer PO #:	12820	
Order#:	N69707	
Tag Number:	N/A	

Calibration Equipment Used:

Description	Model Number	Serial Number
Digital MultiMeter	2502A	2502GA039
Frequency Counter	TC110	91EB17520
Density Converter	DM8C-A1*A	8556DA036
Density Detector	VD6D-S3*B	8551DA025

Yokogawa Corporation of America does hereby certify that the above listed instrument meets or exceeds all published specifications and has been tested in accordance with local standard ASME MFC-6M-1998 using standards whose accuracies are traceable to NIST (National Institute of Standard and Technology), formerly NBS.

Supporting documentation is on file.

Quality Representative

Prepared by: Darlene Cheaves

Certificate Date: August 4, 2010

7:56 AM



Yokogawa Corporation of America 4 Dart Road Shenandoah Industrial Park Newnan, Ga. 30265-1040 Phone 770 254-0400 Fax 770 254-0928 www.us.yokogawa.com

Yewflo Service Calibration Certificate

Equipment Model Number:	DY050-NBMBA1-2N/FF1	
Equipment Serial Number:	3353B033	
Date Calibrated:	August 3, 2010	
Customer PO #:	12820	
Order #:	N69707	
Tag Number:	N/A	

Calibration Equipment Used:

Description	Model Number	Serial Number
Digital MultiMeter	2502A	2502GA039
Frequency Counter	TC110	91EB17520
Density Converter	DM8C-A1*A	8556DA036
Density Detector	VD6D-S3*B	8551DA025

Yokogawa Corporation of America does hereby certify that the above listed instrument meets or exceeds all published specifications and has been tested in accordance with local standard ASME MFC-6M-1998 using standards whose accuracies are traceable to NIST (National Institute of Standard and Technology), formerly NBS.

Supporting documentation is on file.

Quality Representative

Prepared by: Darlene Cheaves

Certificate Date: August 4, 2010 7:

7:51 AM



Yokogawa Corporation of Americ 4 Dart Road Shenandoah Industrial Park Newnan, Ga. 30265-1040 Phone 770 254-0400 Fax 770 254-0928 www.us.yokogawa.com

Service Calibration Certificate

Equipment Model Number:	DY050-NBMBA1-2N/FF1
Equipment Serial Number:	3353B034
Date Calibrated:	August 14, 2010
Customer PO #:	12886
Order#:	N69771
Tag Number:	N/A

Calibration Equipment Used:

Description	Model Number	Serial Number
Digital MultiMeter	2502A	2502GA039
Frequency Counter	TC110	91EB17520
Density Converter	DM8C-A1*A	8556DA036
Density Detector	VD6D-S3*B	8551DA025

Yokogawa Corporation of America does hereby certify that the above listed instrument meets or exceeds all published specifications and has been tested using standards whose accuracies are traceable to NIST (National Institute of Standard and Technology), formerly NBS.

Supporting documentation is on file.

Quality Representative

Prepared by: Debra Johnson

Certificate Date: August 16, 2010

9:25 AM



CALIBRATION LAB

Return As-Is / "BER" (BEYOND ECONOMICAL REPAIR) REPORT

(See Notes below for detail)

Customer: NORLITE

628 SARATOGA ST COHOES, NY 12047-4697

RA#: 1-A51Z7-5-1

Manufacturer: A. W. Sperry Instruments

Model Nbr: DSA-2003

Description: Clamp-On Meter

Serial Nbr: 0813522 PO Number: 12785

ID Tag: NONE

Date Received: Jul 23, 2010

Date Returned/Disposed: Sep 24, 2010

Remarks: Unit was found to be out of tolerance, unable to adjust limits. Repair by replacement with Fluke model 334 per customer request,

For replacement instrument quotation, call Transcat at (800) 828-1470

Assets	Munufucturer	Model	Description	Cat Dista	Due Date	Traceability Numbers
2945	Fluke Corporation	5520A-SC1100	Multifunction Calibrator, w/Scope Option	03/15/2010	12/31/2010	5-A016N-1-1
3027	Fluke Corporation	5500A/Coil	50 Turn Current Coil	10/17/2007	10/31/2017	5-V680B-1-1

Kenther Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720 By: Chris DeZutter



Digitally Signed By Sean Frys for Date: 09/24/2010 3:49:56 PM

Chris Herrmann Lab Manager

F0132R1 8/12/01

BER - Page 1 of 1

Norlite, LLC

Cohoes, New York

PRO-TECH SCALE SERVICE 227 Sulphur Springs Road, Amsterdam, NY 12010

			518-842-	6303		•
CUSTOME	R Nosti	te			DATE 9-2	2 10
STREETAD			toga St	Calcar	DATE TO	JY 12047
ID/TAG#				<u> </u>	SLDG#	12047
MFG/MODE	EL Rice lake	Iq 3	SS			2448/5
SCALE SER	HAL# 115 8	33,				200018
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Adjustment n	nade/in tolerance	A	200		200	
		54.	3 200	4	300	<u>-</u>
Test Load	Weights applied	As found Reading	Error; plus or	Aliowable	As left	Within Tolerance
Zero	0		minus (d)	error (d)	Reading	
		0		0	0	Ø Yes □ No
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CUSTOMER SI	GNATURE:	<u> </u>				
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CALIBRATION

CALIBRATION LAB

Return As-Is / "BER" (BEYOND ECONOMICAL REPAIR) REPORT

(See Notes below for detail)

Customer: NORLITE

628 SARATOGA ST COHOES, NY 12047-4697

RA#: 1-A51Z7-4-1

Manufacturer: Fluke Corporation

Model Nbr: 76

Description: Digital Multimeter

Serial Nbr: 65220856

PO Number: 12785

ID Tag: IC-048

Date Received: Jul 23, 2010

Date Returned/Disposed: Sep 27, 2010

Remarks: unit no power-up,need repair,BER.

For replacement instrument quotation, call Transcat at (800) 828-1470

10015

Description

Cal Date

Due Date

Traceability Numbers

Fluke Corporation

5520A

Multifunction Calibrator

07/08/2010 01/31/2011

5-A42W9-1-1

35 Vantage Point Dr Rochester, NY 14624 585-352-9720 By: Rajkumar K



Digitally Signed By Doug Urquhart for Date: 09/28/2010 5:56:33 AM

Chris Herrmann Lab Manager

F0132R1 R/12Ai4

BER - Page 1 of 1

Page 398 of 1159

CALIBRATION SERVICES



CALIBRATION CERT#

1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nor:

Date Received: Sep 23, 2010

Cert/RA Nbr: 1-A7045-29-1

Date Calibrated: Sep 24, 2010

Manufacturer: Fluke Corporation

Next Calibration: Sep 24, 2011

Model Nbr: 334

Description: Clamp-On Meter

Calibration Proc: 1-AC14346-0

Serial Nbr: 90704869

Item Received: In Tolerance

ID Nor: NONE

Item Returned: In Tolerance

Unit Barcode: 001A0001432

For calibration data, see Supplemental Report for RA Nbr 1-A7045-29-1

Temperature: 70°F / 21.1°C

Temp/RH Asset: 2993B

Relative Humidity: 48%

y the presence of the Accrediting Body's Lago and Certificate Number on this Certificate of by NVLAP, AZLA, NIST, or any agency of the Federal Government. e with ISCVI)C 17025:2005. Accredited calibrations performed within the Leb's Scope of Accreditation are indicated by the pre-that Lub's Scope are noted below. This report must not be used to claim product cartification; opproval, or endoasting the NVL

Trunsent calibrativas, as applicable, are performed in compliance with the requirement of INO 9001-2300, ISO TN16949, ANSUNCSL 2540-1994, QS-9000 and ISO 10012-1992. When specified contractally, the requirement of IOCFR21, IOCFR30 App. B and NQA-1 are also

Transect will maintain and document the tracecibility of all its standards to the National Institute of Stundards and Tuebeology (NIST) or the National Research Council of Caunds (NRC), or to other recognized national or international standard budge. (NMS), or to necessarily conditions circulated in our labeled the international standard international standard nature natural physical constants, ratio type of entitation, or by comparison to constants standards. The specific path of traceculity for the reported measurement results is maintained at the Transact facility and is available there for

The results for this report relate only to the firm calibrated or tested, and the determination of in or out of tolerance is specific to the model/parial row, referenced above based on the manufacturer's published specifications

All entitivations have been performed using processes having a test uncertainty ratio of futer or more times greater fluin the unit tallibrated, unless enterwise instead on the Supplemental Report. Uscartainties have been extinated at a 95 percent considerage level (t-2). Californion at a 5 t. TUR provides immediately considerage considerage. The equation of the considerage considerage considerage considerage. Any number of factors are cause a unit to doth out of following its multivation. The equation turner is increasing instructions, and 0.6 of the least significant digit to the reported uncertainty in the increasing or the unit under test at the specific paint. For many considerations for extensional many referenced to XII give a supplemental and of the consideration of t

Notes:

Assets	Manufacturer	Model	Description	Cal Date	<u>Due Date</u>	Traceability Numbers
2945	Fluke Corporation	5520A-SC1100	Multifunction Calibrator, w/Scope	03/15/2010	12/31/2010	5-A016N-1-1
3027	Fluke Corporation	5500A/Coil	Option 50 Turn Current Coil	10/17/2007	10/31/2017	5-V680B-1-1

Calibrated at:

35 Vantage Point Dr Rochester, NY 14624 Bý: Rajkumar K

NEICVP1120E01

Facility Responsible:

35 Vantage Point Dr Rochester, NY 14624 585-352-9720



Digitally Signed By Chris DeZutter for

Date: 09/24/2010 2:12:50 PM

Chris Herrmann Lab Manager

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F0013R21 8/06/2009 Certificate - Page 1 of 1





CALIBRATION CERT # 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE

628 SARATOGA ST

COHOES, NY 12047-4697

Customer Nbr: 1-187790-000

PO Nbr:

Date Received: September 23, 2010

Cert/SO Nbr: 1-A7045-2-1

Manufacturer: Transmation

Model Nbr: SD0412G

Accuracy: ±0.07% fs

Date Completed: October 07, 2010 Due Date: October 07, 2011

Range: 0 to 33 psi

Description: Pressure Module

Serial Nbr: 97851101

ID Nor: NONE

Calibration Proc: 1-AC07339-1

Item Received: In Tolerance

Item Returned: In Tolerance

Unit Barcode: 001A0031154

This item is calibrated to manufacturer specifications. For calibration data, see Supplemental Report for SO Nbr 1-A7045-2-1

Transcar Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

Transcat calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000, ISO TS16949, ANSI/NCSL 2540-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of IOCFR21, IOCFR20 App. B and NQA-1 are also covered.

Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMTs), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no, referenced above based on the manufacturer's published specifications.

All calibrations have been performed using processes having a test uncertainty ratio of four or more times greater than the unit calibrated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 9.5 percent confidence level (k=2). Calibration at a 4:1 TUR provides reasonable confidence that the instrument is within the manufacturer's published specifications. Limitations on the uses of factors can cause a unit to drift out of tolerance at any time following its calibration. The provide uncertainty is the calibration process. For measuring instruments, add 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specification. For mass calibrations: Conventional mass referenced to 8.0 g/cm3. For single sided tolerances no TUR will be provided.

Notes:

Calibrated At:

35 Vantage Point Dr Rochester, NY 14624 By: Bill Pritchard

Digitally Signed On 10/07/2010

Facility Responsible: 35 Vantage Point Dr Rochester, NY 14624 585-352-9720

Date: 10/08/2010 Chris Herrmann

Digitally Signed By Chris Herrmann

Lab Manager

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This certificate may not be reproduced except in full, without the written approval of Transcat. Additional information, if applicable may be included on separate report(s).

FD013R21.8/06/2009 Certificate - Page 1 of 1

AECOM Environment

CEMS Audit Summaries



December 9, 2010

Mr. Thomas VanVranken Norlite Corporation 628 South Saratoga Street Cohoes, NY 12047

Re: Calibration Error Audit Results

Dear Mr. VanVranken:

CEM Solutions performed Quarterly Calibration Error Audits (CE) on the Primary and Backup CiSCO Continuous Emission Monitoring Systems (CEMS) installed on Kilns 1 and 2 at the Norlite facility in Cohoes, NY. The audits were completed on December 3, 2010 for Kiln 1 and Kiln 2 in accordance with procedures outlined in 40 CFR 266 (BIF), Appendix IX. The CE audit results for Primary and Backup CEMS are presented in Tables 1 and 2 for Kiln 1 and Tables 3 and 4 for Kiln 2 below.

The CE Audits indicated acceptable performance for Kiln 1 and 2 Primary and Backup CEMS with US EPA, BIF, 40 CFR 266, Appendix IX Quality Assurance limits and 40 CFR 60, Appendix B. Performance Specification 4B.

TABLE 1 CE AUDIT RESULTS PRIMARY CEMS KILN 1A December 3, 2010

ANALYZER	RANGE		AUDIT POII	<u>VTS</u> (%)	*
		low	mid	high	
02	0-25 %	0.0	0.0	-0.2	
CO	0-200 ppm	0.0	- 0.3	-0.1	
CO	0-3000 ppm	0.1	-0.6	1.7	

^{*} ACCURACY < 5 % Span Value for CO, < 0.5% O2

1200 Route 9

Hudson, NY 12534

518 ■ 828 ■ 2026

TABLE 2 CE AUDIT RESULTS BACKUP CEMS KILN 1B December 3, 2010

ANALYZER	RANGE		AUDIT POIN	ITS (%)	*
		low	mid	high	
02	0-25 %	0.0	-0.1	-0.2	
СО	0-200 ppm	-0.3	1.2	1.0	
CO	0-3000 ppm	0.1	0.0	0.2	

TABLE 3 CE AUDIT RESULTS PRIMARY CEMS KILN 2A December 3, 2010

ANALYZER	RANGE		AUDIT POIN	TS (%)	*
	·	low	mid	high	
02	0-25 %	0.0	-0.1	-0.1	
CO .	0-200 ppm	0.5	1.9	1.6	
CO	0-3000 ppm	0.1	0.5	0.8	

TABLE 4 CE AUDIT RESULTS BACKUP CEMS KILN 2B December 3, 2010

ANALYZER	RANGE		AUDIT POIN	ITS (%)	*
		low	mid	high	
02	0-25 %	0.0	-0.2	-0.2	
CO	0-200 ppm	0.7	1.0	0.5	
CO	0-3000 ppm	0.1	-0.2	-0.9	

^{*} ACCURACY < 5 % Span Value for CO, < 0.5% O2

EPA PROTOCOL AUDIT GASES

Audit gases are EPA Protocol 1 and supplied by Air Gas Inc.. Gas certifications are on file at the Norlite Plant for review.

CYLINDER TANK ID	COMPONENT	AUDIT VALUE	PSI \ EXPIRATION
XCO25669B	N2	ULTRA PURE N2	850 / NA
CC186413	CO O ₂	70.0 ppm 9.011 %	1150 \ 2-19-13
CC23222	CO O ₂	149.5 ppm 15.06 %	1400\ 11-4-11
CC137876	CO	1058 ppm	1300 \ 4-6-13
CC37552	CO	2320 ppm	1150\ 2-17-13

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

CEM SOLUTIONS

E. Mark Krizar

Project Engineer

Attachments Summary field data sheets

NORLITE, KILN 1A CE FIELD DATA SUMMARY **DECEMBER 3, 2010**

Analyzer: O2

Serial No.: B7-066

Range = 0 to 25

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	0.1	0.1		
2 - MID	9.011	9.0	表示是多数	-0.011	在心理。其会证
3 - HIGH	15.06	14.9			-0.16
4 - MID	9.011	9.0		-0.011	
5 - LOW	0.0	0.0	0	前孫代 (西南)	的看換那位
6 - HIGH	15.06	14.9	野海南。到台灣		-0.16
7 - LOW	0.0	-0.1	-0.1	特别是国际基本	
8 - MID	9.011	9.0	AND THE SECOND	-0.011	连州 步等等等
9 - HIGH	15.06	14.9	to the state of th		-0.16
			0.0	0.0	-0.2
		ACCURACY =	0.0	0.0	-0.2

Analyzer: CO

Serial No.: B7-889

Range = 0 to 200

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	0.9	0.9		A44.700 超級。20 認為基本人立立
2 - MID	70.0	68.8		-1.2	
3 - HIGH	149.5	147.1		的的图集的标准	-2.4
4 - MID	70.0	70.5		0.5	
5 - LOW	0.0	-0.3	-0.3		Capting the second
6 - HIGH	149.5	150.0	计图象外层图像		0.5
7 - LOW	0.0	-0.4	-0.4	31.	
8 - MID	70.0	69.2	建设设置	-0.8	对加州西州 基
9 - HIGH	149.5	150.7			1.2
	MEAN	DIFFERENCE =	0.1	-0.5	-0.2
		ACCURACY =	0.0	-0.3	-0.1

Analyzer: CO

Serial No.: B7-889

Range = 0 to 3000

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	-0.8	-0.8	智素調節時間	图
2 - MID	1058	1043.7		-14.3	
3 - HIGH	2320	2370.6			50.6
4 - MID	1058	1038.9		-19.1	
5-LOW	0.0	4.6	4.6		
6 - HIGH	2320	2372.1	李锋 拉巴语族	表記的問題	52.1
7 - LOW	0.0	2.8	2.8		
8 - MID	1058	1040.4	建工厂和 原本	-17.6	
9 - HIGH	2320	2372.1	Addition 1		52.1
	MEAN	DIFFERENCE =	2.2	-17.0	51.6
		ACCURACY =	0.1	-0.6	1.7

CEM Solutions Hudson, NY

Analyzer CO = \leq 5% span / O2 \leq 0.5 O2

Ken 14 CO 02

Audit Data

Norlite Corporation

Data for 12/3/2010 8:29:00 AM thru 12/3/2010 9:05:20 AM from '2010-12-03 08:28.cea'

Timestamp	(Kiln 1/Train A) GO ppm	(Kiln 1/Train A) O2%	
8:29:00 AM	-1.7	16.3	
8:29:20 AM	8.0	0.7	
8:29:40 AM	-0.2	0.1	
MA 00:02:8	-0.5	0.0	
8:30:20 AM	-0.6	0.0	•
8:30:40 AM	0.4	0.1	
8:31:00 AM	0.0	0.0	
8:31:20 AM	-0.2	0.1	
8:31:40 AM	0.9	5. 1	/
8:32:00 AM	0.4	3.2	
8:32:20 AM	34.6	8.7	
8:32:40 AM	61.9	8.9	
8:33:00 AM	68.4	9.0	
8:33:20 AM	69.8	0.0	
8:33:40 AM	69.2	0.6	
8:34:00 AM	68.3	9.0	
8:34:20 AM	70.3	9.0	
8:34:40 AM	69.9	9.0	
8:35:00 AM	68.8	9.0	. h
8:35:20 AM	49.9	11.1	• • •
8:35:40 AM	118.3	14.8	
8:36:00 AM	142.8	14.9	
8:36:20 AM	148.7	14.9	
8:36:40 AM	150.4	14.9	
8:37:00 AM	148.6	14.9	
8:37:20 AM	151.2	14.9	
8:37:40 AM	150.5	14.9	
8:38:00 AM	149.1	14.9	
8:38:20 AM	149.9	14.9	
8:38:40 AM	147.1	14.9	\mathcal{H}
8:39:00 AM	132.4	10.7	•
8:39:20 AM	84.0	9.0	
8:39:40 AM	74.1	9.0	
8:40:00 AM	70.2	9.0	
8:40:20 AM	69.6	9.0	
8:40:40 AM	70.6	8.9	
8:41:00 AM	71.5	0.6	
B:41:20 AM	68.7	9.0	
8:41:40 AM	0.69	9.0	
8:42:00 AM	7 0.0	0.0	
8:42:20 AM	67.8	0.6	
8:42:40 AM	8.83	9.0	
8:43:00 AM	58.0	8.9	
8:43:20 AM	68.1	0.0	
8:43:40 AM	69.9	9.0	

CeDAR Reports 12/3/2010 9:05 AM, Audit Data

	(Kiln 1/Train	(Kiln 1/frain	•
Timestamp	A) CO ppn:	A) O2%	·
8:44:00 AM	70.3	9.0	
8:44:22 AM	70.5	9.0	_
8:44:40 AM	66.1	9.7	
8:45:00 AM	32.4	0.5	
8:45:20 AM	7.5	0.0	
8:45:40 AM	2.0	0.0	•
8:46:00 AM	0.7	-0.1	
8:46:20 AM	0.5	-0.1	
8:46:40 AM	-0.8	-0.1	
8:47:00 AM	0.0	-0.1	
8:47:20 AM	-0.2	-0.1	
8:47:40 AM	~0.3	0.0	
8:48:00 AM	0.0	0.0	
8:48:20 AM	-1.6	-0.1	
8:48:40 AM	-0,3	0.0	
8:49:00 AM	-1.3	6.0	•
8:49:20 AM	91.5	14.5	
8:49:40 AM	138.0	14.9	
8:50:00 AM	146.7	14.9	
8:60:20 AM	149.5	14,9	
8:50:40 AM	150.3	14.9	
8:51:00 AM	149.6	14.9	
8:51:20 AM	150.0	14.9	
8:51:40 AM	149.6	14.9	
8:52:00 AM	151.4	15.0	
8;52:20 AM	150.1	14.9	
8:52:40 AM	150.3	14.9	
8:53:00 AM	150.0	14.9	
8:53:20 AM	143.9	13.6	
8:53:40 AM	45.4	0.2	
8:54:00 AM	10.4	0.0	
8:54:20 AM	2.6	0.0	
8:54:40 AM	0.0	-0.1	
8:55:00 AM	0.0	-0.1	
8:55:20 AM	0.6 0.6	-0.1	
8:55:40 AM	0.6	-0.1	
8:56:00 AM	0.6	-0.1	
8:56:20 AM	-1.2	-0.1	
8:56:40 AM	-0.4	-0.1	
8:57:00 AM	1.0	1.5	
8:57:20 AM	49.4	8.8	
8:57:40 AM	65.7	9.0	
8:58:00 AM	67.6	8.9	
8:58:20 AM	69.3	9.0	
8:58:40 AM	69.2	9.0	
8:59:00 AM	69.8	9.0	
8:59:20 AM	69.5	9.9	
8:59:40 AM	69.3	8.9	
9:00:00 AM	69.3	8.9	•

CeDAR Reports 12/3/2010 9:05 AM, Audit Data

limestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%
9:00:20 AM	89.2	9.0
9:00:40 AM	61.8	10.3
9:01:00 AM	116.3	14.7
9:01:20 AM	143.5	14.9
9:01:40 AM	148.5	14.9
9:02:00 AM	150.4	14.8
9:02:20 AM	151.6	14.8
9:02:40 AM	149.9	14.9
9:03:00 AM	150.5	14.9
9:03:20 AM	149.7	14.9
9:03:40 AM	151.1	14.9
9:04:00 AM	150.8	14.8
9:04:20 AM	151.8	14.9
9:04:40 AM	151.0	14.9
9:05:00 AM	150.1	14.8
9:05:20 AM	150.7	14.9
Average	74.4	8.5
Minimum	-1.7	-0.1
Maximum	151.8	16.3



Audit Data

Norlite Corporation

Data for 12/3/2010 9:06:40 AM thru 12/3/2010 9:51:40 AM from '2010-12-03 09:08.cea'

Timestamp	(Klin 1/Train A) CO ppm	(Kiln 1/Train A) O2%	
9:06:40 AM	2.2	-0.1	A STATE OF THE PROPERTY AND ADDRESS OF THE PROPERTY OF THE PRO
9:07:00 AM	1.0	-0.1	
9:07:20 AM	1.6	-0.1	
9:07:20 AM 9:07:40 AM	2.8	-0.1 -0.1	`
9:08:00 AM	-1.7	-0.1 -0.2	
9:08:20 AM	-1.4	-0.2	
9:08:40 AM	1.0	-0.2	
9:09:00 AM	1.6	-0.2	
9:09:20 AM	-1.4	-0.2	
9:09:40 AM	8.0	-0.2	,
9:10:00 AM	653.9	0.7	
9:10:20 AM	941.7	-0.2	
9:10:40 AM	1020.5	-0.1	
9:11:00 AM	1039.2	-0.1	
9:11:20 AM	1037.4	-0.2	
9:11:40 AM	1041.6	-0.2	
9:12:00 AM	1044.0	-0.2	
9:12:20 AM	1042.5	-0.1	
9:12:40 AM	1039.2	-0.1	
9:13:00 AM	1045.5	-0.3	
9:13:20 AM	1042.2	-0.2	
9:13:40 AM	1042.5	-0.2	
9:14:00 AM	1043.4	-0.2	,
9:14:20 AM	1043.7	-0.2	
9:14:40 AM	1792.6	0.0	- M
9:15:00 AM	2223.5	-0.2	
9:15:20 AM	2348.8	-0.2	
9:15:40 AM	2376.3	-0.2	
9:16:00 AM	2368.5	-0.1	
9:16:20 AM	2376.6	-0.2	
9:16:40 AM	2377.8	-0.2	
9:17:00 AM	2377.2	-0.2	
9:17:20 AM	2376.3	-0.2	
9:17:40 AM	2371.2	-0.2	
9:18:00 AM	2373.3	-0.2	
9:18:20 AM	2370.6	-0.2	11
9:18:40 AM	2030.9	2.5	
9:19:00 AM	1330.0	-0.1	
9:19:20 AM	1101.4	-0.2	
9:19:40 AM	1047.9	-0.2	
9:20:00 AM	1038.6	-0.2	
9:20:20 AM	1036.5	-0.2	
9:20:40 AM	1038.6	-0.2	
9:21:00 AM	1037.7	-0.2	
9:21:20 AM	1034.7	-0.2	

CeDAR Reports 12/3/2010 9:52 AM, Audit Data

	(Kila 1/Train	(Kiln 1/Train	THE REAL PROPERTY OF
Timestamp	A) CO ppm	A) 02%	
9:21:40 AM	1038.6	-0.2	
9:22:00 AM	1040.1	-0.2	
9:22:20 AM			
	1039.8	-0.3	
9:22:40 AM	1042.2	-0.3	
9:23:00 AM	1038.9	-0.2	M
9:23:20 AM	733.9	2.4	, ,
9:23:40 AM	193.7	-0.2	
9:24:00 AM	45.1	-0.1	
9:24:20 AM	14.6	-0.1	
9:24:40 AM	7.6	-0.1	
9:25:00 AM	4.0	1.0-	
9:25:20 AM	3.4	-0.1	
9:25:40 AM	3.4	-0.1	
9:26:00 AM	5.2	-0.2	
9:26:20 AM	4.6	-0.2	
9:26:40 AM	3.4	-0.1	
9:27:00 AM	1.0	-0.2	
9:27:20 AM	3.4	-0.2	
9:27:40 AM	4.6	-0.2	
9:28:00 AM	4. <u>6</u>	-0.1	,
9:28:20 AM	1367.1	0.5	
9:28:40 AM	2219.9	-0.2	
9:29:00 AM	2343.1	-0.2	
9:29:20 AM	2372.1	-0.2	
9:29:40 AM	2369.7	-0.2	
9:30:00 AM	2374.2	-0.2	
9:30:20 AM	2376.3	-0.2	
9:30:40 AM	2373.3	-0.2	
9:31:00 AM	2373.9	-0.2	
9:31:20 AM	2376.0	-0.2	
9:31:40 AM	2369.7	-0.2	
9:32:00 AM	2373.0	-0.2	
9:32:20 AM	2372.7	-0.2	
9:32:40 AM	2369.1	-0.2	
9:33:00 AM	2372.1	-0.2	4
9:33:20 AM	2212.4	1,3	1
9:33:40 AM	413.2	0.1	
9:34:00 AM	107.6	-0.2	
9:34:20 AM	29,4	-0.2	
9:34:40 AM	14.0	-0.2	
9:35:00 AM	5.8	-0.2	
9:35:20 AM	8.3	-0.2	
9:35:40 AM	4.0	-0.2	
9:35:00 AM	5.2	-0.2	
9:36:20 AM	4.0	-0.3	
9:35:40 AM	5.8	-0.2	
9:37:00 AM 9:37:20 AM 9:37:40 AM	5.8 5.8 5.8	-0.2 -0.2 -0.1	

GeDAR Reports 12/3/2010 9:52 AM, Audit Date

I śwarzanie w west	(Kiln 1/Train	(Kiln 1/Train	
Timestamp	A) CO ppm	A) 02%	
9:38:00 AM	3.4	-0.1	
9:38:20 AM	3.4	-0.1	
9:38:40 AM	2.8	-0.1	
9:39:00 AM	4.0	6.9	
9:39:20 AM	784.9	-0.1	
9:39:40 AM	985.4	-0.2	
9:40:00 AM	1032.2	-0.2	
9:40:20 AM	1037.7	-0.2	
9:40:40 AM	1037.7	-0.2	
9:41:00 AM	1039.5	-0.2	
9:41:20 AM	1038.0	-0.2	
9:41:40 AM	1042.2	-0.2	
9:42:00 AM	1042.5	-0.2	
9:42:20 AM	1043.4	-0.2	
9:42:40 AM	1038.3	-0.2	
9:43:00 AM	1043.4	-0.2	
9:43:20 AM	1039.8	-0.2	
9:43:40 AM	1046.4	-0.3	
9:44:00 AM	1042.5	-0.1	
9:44:20 AM	1040.1	-0.2	
9:44:40 AM	1042.2	-0.2	
9:45:00 AM	1042.2	-0.2	,
9:45:20 AM	1684.5	0.1	- K
9:45:40 AM	2231.4	-0.2	
9:46:00 AM	2349.2	-0.2 -0.2	
9:46:20 AM			
	2376.0	-0.2	
9:46:40 AM	2374.5	-0.2	
9:47:00 AM	2378.7	-0.2	
9:47:20 AM	2377.8	-0.2	
9:47:40 AM	2373.6	-0.2	
9:48:00 AM	2368.2	-0.1	
9:48:20 AM	2372.4	-0.1	
9:48:40 AM	2369.7	-0.2	
9:49:00 AM	2376.3	-0.3	
9:49:20 AM	2380.3	-0.3	
9:49:40 AM	2375.1	-0.3	
9:50:00 AM	2373.6	-0.2	
9:50:20 AM	2367.6	-0.2	
9:50:40 AM	2372.1	-0.1	11
9:51:00 AM	536.4	11.3	1
9:51:20 AM	1105.3	0.7	
9:51:40 AM	130,9	-0.2	
Average	1144.7	0.0	
Minimum	-1.7	-0.3	
Maximum	2380.3	11.3	

NORLITE, KILN 1B **CE FIELD DATA SUMMARY DECEMBER 3, 2010**

Analyzer: O2

Serial No.: B7-067

Range = 0 to 25

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1-LOW	0.0	0.0	0.00		
2 - MID	9.011	8.9	40字卷数字值的	-0.11	n dominini ka
3 - HIGH	15.06	14.9			-0.16
4 - MID	9.011	8.9		-0.11	Lagarity (1)
5 - LOW	0.0	0.0	0.00		
6 - HIGH	15.06	14.9	en og skriver skriver En også en en skriver		-0.16
7 - LOW	0.0	0.0	0.00		
8 - MID	9.011	8.9		-0.11	自己的人
9 - HIGH	15.06	14.9			-0.16
	MEAN	DIFFERENCE =	0.0	-0.1	-0.2
	•	ACCURACY =	0.0	-0.1	-0.2

Analyzer: CO

B7-890

Range = 0 to

200

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	-1.5	-1.5		
2 - MID	70.0	73.8	色彩的杂选模。	3.8	
3 - HIGH	149.5	150.5			1.0
4 - MID	70.0	71.3	North Control of the	1.3	
5 - LOW	0.0	-1.1	-1.1		化结构的选 定
6 - HIGH	149.5	151.5			2.0
7 - LOW	0.0	. 0.8	0.8		
8 - MID	70.0	72.2	并在第二次数数	2.2	
9 - HIGH	149.5	152.5	\$10.00 (1) \$10.00 (1)		3.0
	MEAN	DIFFERENCE =	-0.6	2,4	2.0
		ACCURACY =	-0.3	1.2	1.0

Analyzer: CO

Serial No.: B7-890

Range = 0 to 3000

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH.
1 - LOW	0.0	-0.4	-0.4	阿拉斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯斯	HWY BUSTON
2 - MID	1058	1060.2		2.2	
3 - HIGH	2320.0	2326.7			6.7
4 - MID	1058	1061.4	計畫本 與歐洲	3.4	transfer to the
5 - LOW	0.0	5.3	5.3		
6 - HIGH	2320.0	2321.6	Problem in		1.6
7 - LOW	0.0	5.3	5.3		
8 - MID	1058	1054.8		-3,2	
9 - HIGH	2320.0	2328.6			8.6
	MEAN I	DIFFERENCE =	3.4	0.8	5.6
		ACCURACY =	0.1	0.0	0.2

CEM Solutions Hudson, NY

Analyzer CO = ≤ 5% span / O2 ≤ 0.5 O2

1B-Cd02

Audit Data

Norlite Corporation Data for 12/3/2010 10:07:20 AM thru 12/3/2010 10:47:00 AM from '2010-12-03 10.07.cea'

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%	
10:07:20 AM	4.2	0.2	
10:07:40 AM	1.6	0.1	
MA 00:80:01	-0.8	0.1	
10:08:20 AM	0.5	0.1	
10:08:40 AM	-0.1	0.0	
40:00:00 AM	-0.7	0.1	
10:09:20 AM	-0.3	0.1	
10:09:40 AM	-0.5	. 0.1	
10:10:00 AM	-1.5	0.0	1
10:10:20 AM	-0.7	1.4	
10:10:40 AM	31.1	8.5	
10:11:00 AM	62.D	8.9	
10:11:20 AM	67.5	8.9	
10:11:40 AM	70.6	8.9	
MA G0:\$1:01	71.9	8.8	•
10:12:20 AM	70.5	8.9	
10:12:40 AM	69.9	8.9	
10:13:00 AM	71.2	8.9	
10:13:20 AM	72.2	8.9	
10:13:40 AM	75.7	8.9	
10:14:00 AM	73.8	8.9	. m
10:14:20 AM	70.1	10.7	· 1 · 4
10:14:40 AM	92.8	14.4	
10:15:00 AM	136.2	14.8	
10:15:20 AM	147.6	14.8	
10:15:40 AM	149.0	14.8	
10:16:00 AM	150.7	14.8	
10:16:20 AM	151.0	14.9	
10:16:40 AM	148.5	14.9	
10:17:00 AM	150.7	14.9	
10:17:20 AM	151.0	14.9	
10:17:40 AM	150.3	14.9	
10:18:00 AM	151.7	14.9	
10:18:20 AM	152.0	14.9	
10:18:40 AM	150.5	14.9	u
10:19:00 AM	134.0	10.5	
10:19:20 AM	91.6	0.6	
10:19:40 AM	74.2	8.9	
10:20:00 AM	71.7	8.8	
10:20:20 AM	71.0	8.9	
10:20:40 AM	71.2	8.9	
10:21:00 AM	69.9	8.9	
10:21:20 AM	70.7	8.9	
10:21:40 AM	72.5	8.9	
10:22:00 AM	70.2	8.9	

linestamp	(Kiln 1/Troin B) CO ppm	(Kiln 1/Train B) O2%	regeneráción en expensión (est	and the second s				
10:22:20 AM	69.5	8.9					No. 10 Transport Conference and the Conference and	e-Homela
10:22:40 AM	71.3	8.9		•				
10:23:00 AM	70.7	9.3	m					
10:23:20 AM	63.4		ì					
10:23:40 AM		2.5					•	
10:24:00 AM	21.6	0.1						
	4.9	1.0						
10:24:20 AM	0.9	0.1						
10:24:40 AM	1.1	0.0						
10:25:00 AM	1.7	0.0						
10:25:20 AM	0.0	0.0						
10:25:40 AM	-1.1	0.0						
10:26:00 AM	0.0	0.0						
10:26:20 AM	0.7	0.0						
10:26:40 AM	-1.3	0.0						
10:27:00 AM	-0,6	0.0						
10:27:20 AM	0.5	0.0						
10:27:40 AM	-1.0	0.0						
10:28:00 AM	-1.1	0.0	1					
10:28:20 AM	1.1	1.2	_					
10:28:40 AM	83.9	14.6						
10:29:00 AM	134.7	14.8						
10:29:20 AM	148.6	14.8						
10:29:40 AM	149.4	14.8						
10:30:00 AM	150.0	14.8						
10:30:20 AM	152.2	14.8						
10:30:40 AM	150.8	14,9						
10:31:00 AM	150.0	14.9				•		
10:31:20 AM	152.1	14.8						
10:31:40 AM	151.4	14.8						
10:32:00 AM	149.3	14.9						
10:32:20 AM	151.2	14.9						
10:32:40 AM	150.7	14.9						
10:33:00 AM	149.5	14.9						
10:33:20 AM	149.7	14.9	i		•			
10:33:40 AM	151.5	14.9	H					
10:34:00 AM	150.1	15.2	•					
10:34:20 AM	125.6	3.2						
10:34:40 AM	37.8	0.2						
10:35:00 AM	9.4	0.1						
10:35:20 AM	2.0	0.1		•				
10:35:40 AM	-0.6	0.1						
10:36:00 AM	0.4	0.0						
10:36:20 AM	1.2	0.0						
10:36:40 AM	-0.4	0.0						
10:37:00 AM	-1.0	0.0			•			
10:37:20 AM	1.0	0.0						
10:37:40 AM	0.2	0.0						
10:38:00 AM	-0.8	0.0						
10:38:20 AM	-0.5	0.0						

GeDAR Reports 12/3/2010 10,47 AM, Audit Data

Hmestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Trai B) O2%)
10:38:40 AM	**************************************		
	0.8	0.0	<u></u>
10:39:00 AM	0.1	5.9	
10:39:20 AM	14.8	7.3	
10:39:40 AM	56.5	8.8	
10:40:00 AM	6 8. 1	8.9	
10:40:20 AM	70.2	8.9	
10:40:40 AM	70.6	8.9	
10:41:00 AM	72.2	8.9	
10:41:20 AM	71.3	8.9	
10:41:40 AM	70.2	8.9	
10:42:00 AM	71.5	8.9	
10:42:20 AM	72.1	8.9	
10:42:40 AM	70.8	8.9	
10:43:00 AM	72.2	8.9	
10:43:20 AM	73.5	11.7	-
10:43:40 AM	124.3	14.8	
10:44:00 AM	143.5	14.8	
10:44:20 AM	150.0	14.9	
10:44:40 AM	149.5	14.9	
10:45:00 AM	148.8	14.9	
10:45:20 AM	151.2	14.9	
10:45:40 AM	151.5	14.9	
10:46:00 AM	150.3	14.9	
10:46:20 AM	150.4	14.9	
10:46:40 AM	151.7	14.9	
10:47:00 AM	152.5	14.9	1
Average	74.3	8.1	
Minimum	-1.5	0.0	
Maximum	152.5	15.2	

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Audit Data

Norlite Corporation

Data for 12/3/2010 10:49:00 AM thru 12/3/2010 11:31:20 AM from '2010-12-03 10.48.cea'

10:49:00 AM 10:49:20 AM 10:49:40 AM 10:50:00 AM 10:50:20 AM 10:50:40 AM 10:51:00 AM	2.0 2.6 0.2 -1.6 2.3	0.1 0.0 0.0 0.0	
10:49:40 AM 10:50:00 AM 10:50:20 AM 10:50:40 AM 10:51:00 AM	0.2 -1.6 2.3	0.0	
10:50:00 AM 10:50:20 AM 10:50:40 AM 10:51:00 AM	-i.6 2.3		
10:50:20 AM 10:50:40 AM 10:51:00 AM	2.3	0.0	
10:50:40 AM 10:51:00 AM			
10:51:00 AM		0.0	
	-0.4	0.0	
Jack Jonates	0.2	0.0	
10:51:20 AM	0.2	0.0	
10:51:40 AM	-0.4	0.0	
10:52:00 AM	-0.4	0.0	-/
10:52:20 AM	8.0	2.0	
10:52:40 AM	535.B	0.5	
10:53:00 AM	878.6	0.0	
10:53:20 AM	1015.9	0.0	•
10:53:40 AM	1051.5	0.0	
10:54:00 AM	1056.0	0.0	
10:54:20 AM	1051.5	0.0	
10:54:40 AM	1059.0	0.0	
10:55:00 AM	1055.1	0.0	
10:55:20 AM	1054.5	0.0	
10:55:40 AM	1059.3	0.0	
10:56:00 AM	1060.2	0.0	
10:56:20 AM	1056.0	0.0	
10:56:40 AM	1060.2	0.0	· M
10:57:00 AM	1033.1	1.8	1 '}
10:57:20 AM	1863.6	0.0	
10:57:40 AM	2191.5	0.0	
10:58:00 AM	2302.7	0.0	
10:58:20 AM	2322.8	0.0	
10:58:40 AM	2325.8	0.0	
10:59:00 AM	2327.6	0.0	
10:59:20 AM	2321.9	0.0	
10:59:40 AM 11:00:00 AM	2324.9 2329.2	0.0	
11:00:00 AM		0.0	
11:00:40 AM	2326.1 2323.1	0.0 0.0	
11:01:00 AM	2327.3	0.0	
11:01:20 AM	2326.7	0.0	1
11:01:40 AM	1740.7	0.5	-
11:02:00 AM	1259.2	0.0	Ĺ
11:02:20 AM	1105.1	0.0	
11:02:40 AM	1062.6	0.0	
11:03:06 AM	1062.6	0.0	
11:03:20 AM	1060.2	0.0	
11:03:40 AM	1057.2	0.0	

CeDAR Reports 12/3/2010 11,31 AM, Audit Date

limestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%	
			er weer Dear wee
11:04:00 AM 11:04:20 AM	1060.2 1061.4	0.0	
11:04:40 AM		-0.1	
	1061.4	0.0	
11:05:00 AM	1061.4	0.0	
11:05:20 AM	1055.1	0.0	
11:05:40 AM	1060.8	0.0	
11:06:00 AM	1061.4	0.0	m
11:06:20 AM	1022.2	2.8	ı i
11:06:40 AM	677.4	1.2	
11:07:00 AM	2 44 .1	0.0	
11:07:20 AM	66.1	0.0	
11:07:40 AM	20.1	0.0	
11:08:00 AM	8.9	0.0	
11:08:20 AM	6.8	0.0	
11:08:40 AM	4.7	0.0	
11:09:00 AM	5.0	0.0	
11:09:20 AM	6.2	0.0	
11:09:40 AM	5.9	0.0	
11:10:00 AM	5.0	0,0	
11:10:20 AM	7.1	0.0	
11:10:40 AM	4.7	0.0	
11:11:00 AM	5.0	0.0	
11:11:20 AM	5.9	0.0	
11:11:40 AM	5.3	0.0	1
11:12:00 AM	4.1	2.1	L
11:12:20 AM	1355.0	0.1	
11:12:40 AM	2070.8	0.0	
11:13:00 AM	2262.3	0.0	
11:13:20 AM	2312.0	0.0	
11:13:40 AM	2321.0	0.0	
11:14:00 AM	2318.0	0.0	
11:14:20 AM	2321.6	-0.1	
11:14:40 AM	2322.5	-0.1	
11:15:00 AM	2321.6	0.0	3. I
11:15:20 AM	2312.6	1.0	-17
11:15:40 AM	735.9	0.0	
11:16:00 AM	188.7	0.0	
11:16:20 AM	52.6	0.0	
11:16:40 AM	18.3	0.0	
11:17:00 AM	9.5	0.0	
11:17:20 AM	4.7	0.0	
11:17:40 AM	5.9	0.0	
11:18:00 AM	7.1	0.0	
11:18:20 AM	5.3	0.0	
11:18:40 AM	3.2	0.0	
11:19:00 AM	6.8	0.0	
11:19:20 AM	2.0	0.0	
11:19:40 AM	3.2	0.0	
11:20:00 AM	7.1	0.0	

GeDAR Reports 12/3/2010 11,31 AM, Audit Data

Light in the stay, we could be retail to be stage; of commencer from the	(Kiln 1/Train	(Kiln 1/Train
fimestamp	B) CO ppm	8) 02%
11:20:20 AM	4.7	0.0
11:20:40 AM	4.7	0.0
11:21:00 AM	5.3	0.0
11:21:20 AM	5.3	0.0
11:21:40 AM	3.8	3.2
11:22:00 AM	140.8	1.4
11:22:20 AM	826.8	0.0
11:22:40 AM	1000.6	0.0
11:23:00 AM	1041.8	0.0
11:23:20 AM	1055.7	0.0
11:23:40 AM	1053.6	0.0
11:24:00 AM	1058.4	0.0
11:24:20 AM	1054.2	-0.1
11:24:40 AM	1055.1	0.0
11:25:00 AM	1054.5	0.0
11:25:20 AM	1060.2	0.0
11:25:40 AM	1053.6	0.0
11:26:00 AM	1054.8	-0.1
11:26:20 AM	984.9	8.0
11:26:40 AM	1942.8	0.0
11:27:00 AM	2225.3	0.0
11:27:20 AM	2308.7	0.0
11:27:40 AM	2321.0	0.0
11:28:00 AM	2323.4	0.0
11:28:20 AM	2324.9	0.0
11:28:40 AM	2322.2	0.0
11:29:00 AM	2323.7	0.0
11:29:20 AM	2328.2	0.0
11:29:40 AM	2323.4	0.0
11:30:00 AM	2327.0	-0.1
11:30:20 AM	2330.7	0.0
11:30:40 AM	2328.6	0.0
11:31:00 AM	2326.7	0.0
11:31:20 AM	2328.6	0.0
Average	1034.3	0.1
Minimem	-1.6	-0.1
Maximum	2330.7	3.2

NORLITE, KILN 2A **CE FIELD DATA SUMMARY DECEMBER 3, 2010**

Analyzer: 02

Serial No.: AO2-611

Range = 0 to 25

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MiD	HIGH
1 - LOW	0.0	0.1	0.10	Professor 1	
2 - MID	9.011	8.8	所以 Explosive	-0.211	
3 - HIGH	15.06	14.9		第61首次 原则为于	-0.16
4 - MID	9.011	9.0	Bock alignments Engelige Locales	-0.011	
5 - LOW	0.0	-0.1	-0.10		
6 - HIGH	15.06	15.0	是要的"巴拉克"		-0.06
7 - LOW	0.0	0.1	0.10		STEET STORY TO STEEL
8 - MID	9.011	8.9	的可以可以	-0.111	在1991年,李明
9 - HIGH	15.06	15.0			-0.06
	MEAN DIFFERENCE =			-0.1	-0.1
	•	ACCURACY =	0.0	-0.1	-0.1

Analyzer: CO

Serial No.: XO7-400

Range = 0 to 200

RUN	AUDIT	MONITOR		DIFFERENCE	•
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	0.8	0.8	第 字《经文》	
2 - MID	70.0	72.4		2.4	arouse of
3 - HIGH	149.5	152.6			3.1
4 - MID	70.0	74.7		4.7	
5 - LOW	0.0	1.4	1.4		化基本化基基
6 - HIGH	149.5	153.3	不是不是不是		3.8
7 - LOW	0.0	0.6	0.6		
8 - MID	70.0	74.2		4.2	
9 - HIGH	149.5	152.1		TENER SETTING TO SEE SEE.	2.6
MEAN DIFFERENCE =			0.9	3.8	3.2
		ACCURACY =	0.5	1.9	1.6

Analyzer: CO

Serial No.: X07-400

Range = 0 to 3000

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	1.6	1.6	diament to	以外的 企业的数据
2 - MID	1058	1069.7	vije dosebska ov	11.7	
3 - HIGH	2320	2339.6			19.6
4 - MID	1058	1071.0	34.76(24.00)	13	44%,智能到36
5-LOW	0.0	3.4	3.4		
6 - HIGH	2320	2346.4			26.4
7 - LOW	0.0	1.0	1.0	SPESHAG LEP	计图图作事件
8 - MID	1058	1075.0		17.0	
9 - HIGH	2320	2348.2		il British	28.2
MEAN DIFFERENCE =			2.0	13.9	24.7
		ACCURACY =	0.1	0.5	8.0

CEM Solutions Hudson, NY

Analyzer CO = ≤ 5% span / O2 ≤ 0.5 O2



Audit Data

Norlite Corporation

Data for 12/3/2010 11:45:00 AM thru 12/3/2010 12:24:40 PM from '2010-12-03 11.44.cea'

Timestamp	(Kiln 2/Train A) CO ppm	(Kiin 2/frain A) 02%	
11:45:00 AM	3.3	0.0	
11:45:20 AM	1.2	0.1	
11:45:40 AM	0.3	0.0	
11:46:00 AM	0.1	0.0	
11:45:20 AM	0.0	0.0	
11:46:40 AM	-0.1	0.1	
11:47:00 AM			
11:47:20 AM	-0.5	0.0	
	0.0	0.0	
11:47:40 AM	0.6	0.1	
11:48:00 AM	0.7	0.1	
11:48:20 AM	0.5	0.1	
11:48:40 AM	0.8	0.1	- [
11:49:00 AM	18.5	8.2	_
11:49:20 AM	52.1	8.8	
11:40:40 AM	66.3	8.8	
11:50:00 AM	71.5	8.8	
11:50:20 AM	72.9	8.8	
11:50:40 AM	73.5	8.8	
11:51:00 AM	73.2	8.8	
11:51:20 AM	73.5	8.8	
11:51:40 AM	73.2	8.8	
11:52:00 AM	72.4	8.8	n.
11:52:20 AM	75.3	13.1	11
11:52:40 AM	117.5	14.9	
11:53:00 AM	140.8	14.9	
11:53:20 AM	149.0	14.9	
11:53:40 AM	151.3	14.9	
11:54:00 AM	152.3	14.9	
11:54:20 AM	152.3	14.9	
11:54:40 AM	152.6	14.8	
11:55:00 AM	151.4	14.9	
11:55:20 AM	151.6	14.9	
11:65:40 AM	152.2	14.9	J
11:56:00 AM	152.6	14.9	1-1
11:56:20 AM	146.3	11.5	ì
11:56:40 AM	106.4	8.9	
11:57:00 AM	84.4	8.8	
11:57:20 AM	76.1	8.8	
11:57:40 AM	74.3	8.8	
11:58:00 AM	73.4	8.8	
11:58:20 AM	73.4 73.4		
		8.8	
11:58:40 AM	73.2	8.9	
11:59:00 AM	73.5	8.9	
11:59:20 AM	74.2	8.9	
11:59:40 AM	73.9	8.9	

GBDAR Reports 12/3/2010 12,24 PM, Audit Data

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%			en e Chille Annu I britan synthetip minetal a baban s	
12:00:00 PM	74.7	9.0	m			
12:00:20 PM	51.9	0.4				
12:00:40 PM	0,61	0.1				
12:01:00 PM	6.2	0.0				
12:01:20 PM	1.6	0.0				
12:01:40 PM	0.8	0.0				
12:02:00 PM	0.7	0.0				
12:02:20 PM	0.4	0.0				
12:02:40 PM	0.4	0.0				
12:03:00 PM	0.4	0.1				
12:03:20 PM	0.7	0.0				
12:03:40 PM	0.6	0.0				
12:04:00 PM	0.4	0.0				
12:04:20 PM	1.0	0.1				
12:04:40 PM	9.7	0.0			•	
12:05:00 PM	1.4	0_1	-L			
12:05:20 PM	5.5	8.2				
12:05:40 PM	81.5	14,8				
12:06:00 PM	127.9	14.9				
12:06:20 PM	144.9	14.9				
12:06:40 PM	150.6	14.9				
12:07:00 PM	151.8	15.0				
12:07:20 PM	152.1	14.9				
12:07:40 PM	152.5	14.9				
12:08:00 PM	152.3	15.0				
12:08:20 PM	152.0	15.0				
12:08:40 PM	152.5	15.0				
12:09:00 PM	153.2	14.9				
12:09:20 PM	153.1	15.0				
12:09:40 PM	152.9	15.0				
12:10:00 PM	152.4	14.9				
12:10:20 PM	152.4	14.9	1			
12:10:40 PM	153.3	15.0	7			
12:11:00 PM	141.5	13.5	1 (
12:11:20 PM	74.1	0.3				
12:11:40 PM	26.3	0.0				
12:12:00 PM	8.6	0.1				
12:12:20 PM	2.1	0.0				
12:12:40 PM	0.3	0,0				
12:13:00 PM	1.2	0.1				
12:13:20 PM	1.5	0.0				
12:13:40 PM	0.5	0.1				
12:14:00 PM	0.1	0.0				
12:14:20 PM	0.5	0.0				
12:14:40 PM	0.7	0.1				
12:15:00 PM	0.7	0.0				
12:15:20 PM	1.4	0.0				
12:15:40 PM	0.6	0.0	į			
FO 1 (8)	0.0	G. I	1			

GeDAR Reports 12/3/2010 12,24 PM, Audit Data

	(Kiln 2/Train	(Kıln 2/Train	
Timestamp	A) CO ppm	A) 02%	الترجيع بمسائدين سي
12:16:20 PM	42.7	8.9	
12:16:40 PM	63.3	8.8	
12:17:00 PM	70.2	8.9	
12:17:20 PM	72.7	8.8	
12:17:40 PM	73.2	3.8	
12:18:00 PM	73.6	8.8	
12:18:20 PM	73.4	8.8	
12:18:40 PM	72.7	8.8	
12:19:00 PM	73.7	8.8	
12:19:20 PM	73.6	8.9	
12:19:40 PM	73.4	8.8	
12:20:00 PM	73.4	8.9	
12:20:20 PM	74.2	8.9_	-m
12:20:40 PM	74.3	11.5	- , ,
12:21:00 PM	115.7	14.9	
12:21:20 PM	139.7	14.9	
12:21:40 PM	148.9	15.0	
12:22:00 PM	151.1	15.0	
12:22:20 PM	151.3	14.9	
12:22:40 PM	151.5	15.0	
12:23:00 PM	151.3	15.0	
12:23:20 PM	152.2	15.0	
12:23:40 PM	152.5	15.0	
12:24:00 PM	152.5	15.0	
12;24:20 PM	152.1	15.0	4
12:24:40 PM	146.8	9.5	•
Average	73.3	7.8	
Minimum	-0.5	-0.1	
Maximum	453.3	15.0	



Audit Data

Norlite Corporation Data for 12/3/2010 12:26:20 PM thru 12/3/2010 1:09:40 PM from '2010-12-03 12:26.cea'

Timestamp	(Kiln 2/Train A) CO ppm	(Kitn 2/Train A) 02%	
12:26:20 PM	0.4	0.0	
12:26:40 PM	-0.9	0.0	
12:27:00 PM	1.0	-0.1	
12:27:20 PM	1.5	0.0	
12:27:40 PM	-1.5	0.0	
12:28:00 PM	1.6	0.1	
12:28:20 PM	-0.9	0.0	
. 12:28:40 PM	2.8	0.0	
12:29:00 PM	2.8	0.1	
12:29:20 PM	2.8	0.0	
12:29:40 PM	2.8	0.0	
12:30:00 PM	1.6	0.0	- /
12:30:20 PM	2.8	0.0	
12:30:40 PM	89.5	1.3	
12:31:00 PM	621.1	0.0	•
12:31:20 PM	916.3	0.0	
12:31:40 PM	1023.3	0.0	
12:32:00 PM	1056.5	0.0	
12:32:20 PM	1064.8	0.0	
12:32:40 PM	1070.4	0.0	
12:33:00 PM	1070.4	0.0	
12:33:20 PM	1067.9	0.1	
12:33:40 PM	1069.7	0.0	
12:34:08 PM	1064.8	0.1	
12:34:20 PM	1066.1	0.0	
12:34:40 PM	1071.6	0.0	
12:35:00 PM	1065.7	0.0	
12:35:20 PM	1069.7	0.1	
12:35:40 PM	1070.4	0.1	
12:36:00 PM	1067.3	0.0	
12:36:20 PM	1069.7	0.0	$\mathcal{L}_{\mathcal{M}}$
12:36:40 PM	1044.8	2.0	
12:37:00 PM	1640.1	0.1	
12:37:20 PM	2088.1	0.0	
12:37:40 PM	2260.6	0.0	
12:38:00 PM	2315.9	0.0	
12:38:20 PM	2334.7	0.0	
12:38:40 PM	2335.3	0.0	
12:39:00 PM	2336.5	0.0	
12:39:20 PM	2336.5	0.0	
12:39:40 PM	2336.5	0.0	
12:40:00 PM	2337.7	0.0	
12:40:20 PM	2336.5	0.0	•
12:40:48 PM	2337.4	0.0	
12:41:00 PM	2339.6	0.0	H

CaDAR Reports 12/3/2010 1,09 PM, Audit Date

limestamp	(Kiln 2/Train A) Gü ppm	(Kiln 2/Trein A) 02%		
12:41:20 PM	1648.7	0.2		
12:41:40 PM	1276.7	0.0		
12:42:00 PM	1133.7	0.0		
12:42:20 PM	1084.2	0.0		
12:42:40 PM	1070.0	-0.1		
12:43:00 PM	1073.7	0.0		
12:43:20 PM	1072.8	0.0		
12:43:40 PM	1075.6	0.0		
12:44:00 PM	1074.7	0.1		
12:44:20 PM	1069.7	0.0		
12:44:40 PM	1076.2	0.0		
12:45:00 PM	1072.5	0.0		
12:45:20 PM	1071.6	0.0		
12:45:40 PM	1071.0		loa	
12:46:00 PM	927.4	0.6	m	
12:46:20 PM	377.3	0.0		
12:46:40 PM 12:47:00 PM	125.8 39.7	0.0		
		0.0		
12:47:20 PM	13.0	0.0		
12:47:40 PM	5.5	0.0		
12:48:00 PM	3.4	0.0		
12:48:20 PM	3.4	0.1		
12:48:40 PM	1.0	0.0		
12:49:00 PM	1.6	0.1		
12:49:20 PM	4.0	0.0		
12:49:40 PM	3.4	0.1		
12:50:00 PM	4.0	5.0		
12:50:20 PM	1421.5	0.2		
12:50:40 PM	1945.1	0.0		
12:51:00 PM	2209.8	0.0		
12:51:20 PM	2305.2	0,0		
12:51:40 PM	2334.4	0.0		
12:52:00 PM	2340.5	0.0		
12:52:20 PM	2343,9	0.0		
12:52:40 PM	2343.3	0.0		
12:53:00 PM	2343.0	0.0		
12:53:20 PM	2345.7	0.0		
12:53:40 PM	2346.4		(
12:54:00 PM	2308.2	$\frac{0.0}{2.7}$ k	1	
12:54:20 PM	619.6	0.1		
12:54:40 PM	235.0	0,0		
12:55:00 PM	78.8	0.0		
12:55:20 PM	28.0	0.1		
12:65:40 PM	10.5	0.0		
12:56:00 PM	5.6	0.0		
12:56:20 PM	5.6	0.0		
12:56:40 PM	2.8	0.0		
12:57:00 PM	2.2	0.0		
12:57:20 PM	4.7	0.0		

GeDAR Reports 12/3/2010 1,09 PM, Audit Dala

CALL PHOTOAL MICEONIC SERVICE FOR EAST	(Kiln 2/Train	(Kiln 2/Train	
fimestamp	A) CO ppm	A) 02%	معادات والماليات
12:57:40 PM	2.8	0.0	
12:58:00 PM	2.2	0.0	
12:68:20 PM	2.2	0.0	
12:58:40 PM	4.0	0.0	
12:59:00 PM	3.4	0.0	
12:59:20 PM	1.0	0.0	
12:59:40 PM	3.4	0.0	
1:00:00 PM	2.8	0.0	
1:00:20 PM	3.4	0.0	
1:00:40 PM	1.0	0.0	
1:01:00 PM	45.8	1.5	_
1:01:20 PM	581.8	0.0	
1:01:40 PM	899.4	0.0	
1:02:00 PM	1022.1	0.0	
1:02:20 PM	1056.8	0.0	
1:02:40 PM	1070.4	0.0	
1:03:00 PM	1072.8	0.0	
1:03:20 PM	1076.8	0.0	
1:03:40 PM	1072.5	0.0	
1:04:00 PM	1074.4	0.0	
1:04:20 FM	1075.0	0.0	-m
1:04:40 PM	1061.7	1.6	'
1:05:00 PM	1661.6	0.0	•
1:05:20 PM	2105.3	-0.1	
1:05:40 PM	2271.0	0.0	
1:06:00 PM	2326.1	-0.1	
1:06:20 PM	2344.2	0.0	
1:06:40 PM	2346.4	0.0	
1:07:00 PM	2347.0	0.0	
1:07:20 PM	2347.0	0.0	
1:07:40 PM	2346.0	0.0	
1:08:00 PM	2347.0	0.0	
1:08:20 PM	2346.7	0.0	
1:08:40 PM	2347.6	-0.1	
1:09:00 PM	2346.7	0.0	
1:09:20 PM	2348.2	0.0	-i
1:09:40 PM	778.3	0.2	l .
Average Minimum	1043.5 -1.5	0.1 -0.1	
Maxlmum	2348.2	5.0	

NORLITE, KILN 2B **CE FIELD DATA SUMMARY DECEMBER 3, 2010**

Analyzer: O2

Serial No.: F6-279

Range = 0 to 25

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	0.0	0.00		
2 - MID	9.011	8.8		-0.21	
3 - HIGH	15.06	14.8			-0.26
4 - MID	9.011	8.9		-0.11	
5 - LOW	0.0	0.0	0.00	引致 经外基金的	· 经收益基本
6 - HIGH	15.06	14.9	经多类有错师		-0.16
7 - LOW	0.0	0.0	0.00		15 of the 18 value of 18
8 - MID	9.011	8.8	STATES A STATE OF	-0.21	
9 - HIGH	15.06	14.9		ente el mest per la como de la co	-0.16
	MEAN DIFFERENCE =			-0.2	-0.2
		ACCURACY =	0.0	-0.2	-0.2

Analyzer: CO

Serial No.: F6-187

Range = 0 to 200

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	1.1	1.1	547250000	[2] "那是大学
2 - MID	70.0	71.7		1.7	
3 - HIGH	149.5	149.6		类型 建基础	0.1
4 - MID	70.0	71.8	建建设的 学程	1.8	
5 - LOW	0.0	1.6	1.6		
6 - HIGH	149.5	150.5	设施设施		1.0
7 - LOW	0.0	1.7	1.7	rierak ezeretak Tarak etakoak	
8 - MID	70.0	72.2		2.2	
9 - HIGH	149.5	151.3	2000年100年12	10分字中里里	1.8
	MEAN DIFFERENCE =			1.9	1.0
		ACCURACY =	0.7	1.0	0.5

Analyzer: CO

Serial No.: F6-187

Range = 0 to 3000

RUN	AUDIT	MONITOR		DIFFERENCE	·
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	2.8	2.8	进出传》是同位	TRANSPORTER TO
2 - MID	1058	1050.8		-7.2	
3 - HIGH	2320.0	2293.2			-26.8
4 - MID	1058	1052.0		-6	
5 - LOW	0.0	2.8	2.8		
6 - HIGH	2320.0	2295.8		n charlent	-24.2
7 - LOW	0.0	4.9	4.9		el aparta emple en el est
8 - MID	1058.0	1052.0		-6.0	
9 - HIGH	2320.0	2294.0			-26.0
	MEAN	DIFFERENCE =	3.5	-6.4	-25.7
		ACCURACY =	0.1	-0.2	-0.9

CEM Solutions Hudson, NY

Analyzer CO = \leq 5% span / O2 \leq 0.5 O2

CO10Z

Audit Data

Norlite Corporation

Data for 12/3/2010 1:23:20 PM thru 12/3/2010 2:01:20 PM from '2010-12-03 13.23.cea'

Timestamp	(Klin 2/Train B) CO ppm	(Klin 2/Trair B) O2%	h ond 12/3/2010 2:01:20 PW from '2010-12-03 13:23.cea'
1:23:20 PM		***************************************	
1:23:40 PM	1.3	0.1	
1:24:00 PM	0.9	0.0	
	1.3	0.0	
1:24:20 PM	1.1	0.0	
1:24:40 PM	0.9	0.0	
1:25:00 PM	0.9	0.0	
1:25:20 PM	1.0	0.0	
1:25:40 PM	1.1	0.0	
1:26:00 PM	1.5	0.0	
1:26:20 PM	1.8	0.0	
1:26:40 PM	1.0	0.0	
1:27:00 PM	1.1	0.0	
1:27:20 PM	5.8	7.1	
1:27:40 PM	48.0	8.8	
1:28:00 PM	56.3	8.8	
1:28:20 PM	70.7	8.8	
1:28:40 PM	71.8	8.8	
1:29:00 PM	72.2	8.8	
1:29:20 PM	72.0	8.8	
1:29:40 PM	71.7	8.8	
1:30:00 PM	71.6	8.8	
1:30:20 PM	71.7	8.8	- ha
1:30:40 PM	65.8	12.1	- 1 * }
1:31:00 PM	114.9	14.8	
1:31:20 PM	140.6	14.8	
1:31:40 PM	147.5	14_E	•
1:32:00 PM	148.8	14.8	
1:32:20 PM	148.9	14.8	
1:32:40 PM	149.3	14.9	
1:33:00 PM	149.3	14.8	
1:33:20 PM	149.5	14.9	
1:33:40 PM	149.9	14.8	
1:34:00 PM	149.8	14.8	
1:34:20 PM	149.6	14.8	
1:34:40 PM	128.9	9.5	. 1
1:35:00 PM	. 0.98	8.9	
1:35:20 PM	76.3	8.9	
1:35:40 PM	72.5	8.9	
1:36:00 PM	72.1	8.8	
1:36:20 PM	72.2	8.8	
1:36:40 PM	72.1	8.9	
1:37:00 PM	71.9	8.9	
1:37:40 PM	79.0	s.s	•
1:38:00 PM	72.2	8.9	No.
radini Pin	71.8	8.9	\mathcal{M}

GeDAR Repuris 12/3/2010 2:01 PM, Audit Data

经现在的证券 的证券的证据的	(Kiln 2/Train	(Kiin 2/Train	
Timestamp	B) CO ppm	B) 02%	
1:38:20 PM	62.3	1.8	
1:38:40 PM	22.1	0.1	· ·
1:39:00 PM	6.3	0.1	
1:39:20 PM	2.1	0.0	
1:39:40 PM	1.6	0.1	
1:40:00 PM	1.0	0.0	
1:40:20 PM	0.6	0.0	•
1:40:40 PM	0.3	0.0	
1:41:00 PM	0.4	0,0	
1:41:20 PM	0.7	0.0	
1:41:40 PM	1.4	0.0	
1:42:00 PM	2.0	0.1	
1:42:20 PM	1.4	0.0	
1:42:40 PM	1.8	0,1	
1:43:00 PM	2.2	0.1	
1:43:20 PM	1.6	0.0	
1:43:40 PM	35.1	13.4	
1:44:00 PM	113.3	14.8	
1:44:20 PM	141.4	14.9	
1:44:40 PM	147.9	14.9	
1:45:00 PM	149.0	14,9	
1:45:20 PM	149.6	14.9	
1:45:40 PM	149.4	14.9	
1:46:00 PM	149.7	14.9	
1:46:20 PM	150.1	14.9	
1:46:40 PM	150.6	14.9	
1:47:00 PM	150,6	14.9	
1:47:20 PM	150.7	14.9	
1:47:40 PM	150.6	14.9	
1:48:00 PM	150.5	14.9	
1:48:20 PM	150.5	14.9	
1:48:40 PM	89.3	0.6	
1:49:00 PM	26.0	0.1	
1:49:20 PM	8.8	0.1	
1:49:40 PM	2.3	0.1	
1:50:00 PM	0.9	0.1	
1:50:20 PM	0.7	0.1	
1:50:40 PM	1.1	0.1	
1:51:00 PM	0.9	0.1	
1:51:20 PM	1.4	0.1	
1:51:40 PM	1.5	0.1	
1:52:00 PM	1.6	0.1	
1:52:20 PM	1.9	0.1	
1:52:40 PM	1.7	0.0	
1:53:00 PM	5.3	5./	
1:53:20 PM	48.8	8.8	
1:53:40 PM	66.4	8.9	
1:54:00 PM	71.2	5.8	
1:54:20 PM	71.9	8.9	

GeDAR Reports 12/3/2010 2:01 PM, Audit Data

fimestamp	(Kiin 2/Train B) CO ppm	(Kiln 2/Train B) O2%
1:54:40 PM	71.8	č.8
1:55:00 PM	72.4	8.8
1:55:20 PM	71.9	8.9
1:55:40 PM	72.3	8.9
1:56:00 PM	12.2	8.8
1:56:20 PM	72.5	8.8
1:56:40 PM	72.2	8.8
1:57:00 PM	72.7	8.8
1:57:20 PM	72.2	8.8
1:57:40 PM	70.1	10.9
1:58:00 PM	114.8	14.9
1:58:20 PM	141.5	14.9
1:58:40 PM	148.7	14.9
1:59:00 PM	150.3	14.9
1:59:20 PM	150.0	14.9
1:59:40 PM	150.1	14.9
2:00:00 PM	150.6	14.9
2:00:20 PM	150.7	14.9
2:00:40 PM	151.5	14.9
2:01:00 PM	151.5	14.9
2:01:20 PM	151.3	14.9
Average	70.4	7.7
Minimum	0.3	0.0
Maximum	151.5	14.9



Audit Data

Norlite Corporation
Data for 12/3/2010 2:02:40 PM thru 12/3/2010 2:42:20 PM from '2010-12-03 14.02.cea'

	(Kiln 2/Train	(Kiln 2/Train	Intil 12/3/2010 2:42:20 PM from '2010-12-03 14.02.ces'
Timestamp	B) CO ppm	B) 02%	
2:02:40 PM	5.9	0.0	
2:03:00 PM	3.4	0.0	
2:03:20 PM	4.0	0.0	
2:03:40 PM	1.9	0.0	
2:04:00 PM	2.2	0.0	
2:04:20 PM	1.0	0.0	
2:04:40 PM	2.8	0.0	
2:05:00 PM	1.0	0.0	
2:05:20 PM	2.8	0.0	
2:05:40 PM	3.4	0.0	
2:06:00 PM	2.8	0.0	
2:05:20 PM	_2.8	0.0	1
2:06:40 PM	16.2	2.8	
2:07:00 PM	585.1	0.0	
2:07:20 PM	928.0	0.0	
2:07:40 PM	1024.6	0.0	
2:08:01 PM	1042.5	0.0	
2:08:20 PM	1049.9	0.0	
2:08:40 PM	1051.1	0.0	
2:09:00 FM	1051.1	0.0	
2:09:20 PM	1046.6	0.0	
2:09:40 PM	1050.2	0.0	
2:10:00 PM	1050.8	0.0	h -
2:10:20 PM	1047.2	1.5	17
2:10:40 PM	1502.0	0.0	
2:11:00 PM	2067.6	0.0	
2:11:20 PM	2245.5	0.0	
2:11:40 PM	2287.2	0.0	
2:12:00 PM	2292. 3	0.0	
2:12:20 PM	2291.1	0.0	
2:12:40 PM	2280.0	0.2	
2:13:00 PM	2279.4	0.1	
2:13:20 PM	2293.4	0.0	
2:13:40 PM	2292.3	0.0	
2:14:00 PM	2293. 7	0.0	·
2:14:20 PM	2293.7	0.0	
2:14:40 PM	2293.2	0.0	. W
2:15:00 PM	1780.9	3.1	
2:15:20 PM	1301.4	0.0	
2:15:40 PM	1105.7	0.0	
2:16:00 PM	1056.8	0.0	
2:16:20 PM 2:16:40 PM	1050.5	0.0	
2:17:00 PM	1050.2 1050.2	0.0	
2:17:20 PM	1052.3	0.0	
1 , 13 F 19/1	1050.5	O.O	

CeDAR Reports 12/3/2010 2:42 PM, Audit Date

The second secon	(Kiln 2/Train	(Kiln 2/Train	
timestamp	B) CO ppm	B) O2%	
2:17:40 PM	1049.0	0.0	and the state of t
2:18:00 PM	1050.2	0.0	
2:18:20 PM	1050.2	0.0	
2:18:40 PM	1052.0	0.0 ∨	
2:19:00 PM	928.0	1.4	
2:19:20 PM	323.7	0.0	
2:19:40 PM	84.4	0.0	
2:20:00 PM	24.8	0.0	
2:20:20 PM	9.9	0.0	
2:20:40 PM	5.5	0.0	
2:21:00 PM	2.8	0.0	
2:21:20 PM	3.4	0.0	
2:21:40 PM	5.8	0.0	
2:22:00 PM	5.2	0.0	
2:22:20 PM	4.0	0,0	
2:22:40 PM	2.8	0,0	
2:23:00 PM	5.5	0.0	
2:23:20 PM	2.8	0.0	
2:23:40 PM	5.2	5.3 4	
2:24:00 PM	954.3	1.6	
2:24:20 PM	1674.8	0.0	
2:24:40 PM	2132.2	0.0	
2:25:00 PM	2260.7	0.0	
2:25:20 PM	2289.6	0.0	
2:25:40 PM	2292.3	0.0	•
2:26:00 PM	2294.0	0.0	
2:26:20 PM	2294.3	0.0	
2:26:40 PM	2292.3	0.0	
2:27:00 PM	2296.4	0.0	
2:27:20 PM	2295.5	0.0	
2:27:40 PM	2296.4	0.0	
2:28:00 PM	2293.4	0.0	
2:28:20 PM	2292.9	0.0	
2:28:40 PM	2293.4	0.0	
2:29:00 PM	2295.8	0.0	
2:29:20 PM	1662.9	1.2	
2:29:40 PM	531.1	0.0	
2:30:00 PM	147.0	-0.1	
2:30:20 PM	41.8	0.0	
2:30:40 PM	16.2	0.0	
2:31:00 PM	9.0	0.0	
2:31:20 PM	7.3	0.0	
2:31:40 PM	6.1	0.0	
2:32:00 PM	6.7	0.0	
2:32:20 PM	5.2	0.0	
2:32:40 PM	5.2	0.0	
2:33:00 PM	6.7	0.0	
2:33:20 PM	4.9	0.0 (
2:33:40 PM	6.7	3.8	1

CeDAR Reports 12/3/2018 2:42 PM, Audit Date

Timestamp	(Kiin 2/Train 8) CO ppm	(Kiln 2/Train B) 02%	
2:34:00 PM	525.2	0.0	
2:34:20 PM	906.3	0.0	
2:34:40 PM	1021.3	0.0	
2:35:00 PM	1044.3	0.0	
2:35:20 PM	1047.8	0.0	
2:35:40 PM	1051.4	0.0	
2:36:00 PM	1054.1	-0.1	
2:36:20 PM	1052.0	-0.1	
2:36:40 PM	1047.8	0.0	
2:37:00 PM	1049.0	0.0	
2:37:20 PM	1050.2	0.0	
2:37:40 PM	1053.2	0.0	
2:38:00 PM	1052.0	0.0	· lon
2:38:20 PM	1058.3	1.0	Y 1
2:38:40 PM	1825.9	0.0	
2:39:00 PM	2182.0	0.0	
2:39:20 PM	2272.3	0.0	
2:39:40 PM	2294.3	0.0	
2:40:00 PM	2292.9	0.0	
2:40:20 PM	2294.3	0.0	
2:40:40 PM	2296.1	0.0	
2:41:00 PM	2293.2	0.0	
2:41:20 PM	2292.6	0.0	
2:41:40 PM	2293.7	0.0	
2:42:00 PM	2294.6	0.0	ſ
2:42:20 PM	2294.0	0.0 }-	1
Average Minimum	1105.8	0.2	
Maximum	1.0 2296.4	-0.1 5.3	



October 5, 2010

Mr. Thomas VanVranken Norlite Corporation 628 South Saratoga Street Cohoes, NY 12047

Re: Calibration Error Audit Results

Dear Mr. VanVranken:

CEM Solutions performed Quarterly Calibration Error Audits (CE) on the Primary and Backup CiSCO Continuous Emission Monitoring Systems (CEMS) installed on Kilns 1 and 2 at the Norlite facility in Cohoes, NY. The audits were completed on September 21, 2010 for Kiln 1 and Kiln 2 in accordance with procedures outlined in 40 CFR 266 (BIF), Appendix IX. The CE audit results for Primary and Backup CEMS are presented in Tables 1 and 2 for Kiln 1 and Tables 3 and 4 for Kiln 2 below.

The CE Audits indicated acceptable performance for Kiln 1 and 2 Primary and Backup CEMS with US EPA, BIF, 40 CFR 266, Appendix IX Quality Assurance limits and 40 CFR 60, Appendix B. Performance Specification 4B.

TABLE 1 CE AUDIT RESULTS PRIMARY CEMS KILN 1A September 21, 2010

ANALYZER	RANGE		AUDIT POIN	NTS (%)	*
		low	mid	high	
02	0-25 %	0.0	0.0	-0.1	
CO	0-200 ppm	0.0	- 1.0	-3.0	
co	0-3000 ppm	0.1	-1.2	-1.0	

^{*} ACCURACY < 5 % Span Value for CO, < 0.5% O2

1200 Route 9

Hudson, NY 12534

518 = 828 = 2026

TABLE 2 CE AUDIT RESULTS BACKUP CEMS KILN 1B September 21, 2010

ANALYZER	RANGE		AUDIT POIN		*
ANALIZEN		low	mid	high	
02	0-25 %	0.0	-0.1	-0.2	
СО	0-200 ppm	-0.6	-1.4	-1.4	
СО	0-3000 ppm	0.1	-0.5	-1.4	

TABLE 3 CE AUDIT RESULTS PRIMARY CEMS KILN 2A September 21, 2010

ANALYZER	RANGE		AUDIT POIN	TS (%)	*
AND ALLEGAN		low	mid	high	
02	0-25 %	0.0	-0.2	-0.2	
co	0-200 ppm	0.0	1,2	0.5	
CO	0-3000 ppm	0.1	-0.9	-2.2	

TABLE 4 CE AUDIT RESULTS BACKUP CEMS KILN 2B September 21, 2010

ANALYZER	RANGE		AUDIT POIN	ITS (%)	*
		low	mid	high	
02	0-25 %	0:.0	-0.1	-0.2	
CO	0-200 ppm	0.4	1.7	1.4	
co	0-3000 ppm	0.1	-1.3	-3.3	

^{*} ACCURACY < 5 % Span Value for CO, < 0.5% O2

EPA PROTOCOL AUDIT GASES

Audit gases are EPA Protocol 1 and supplied by Air Gas Inc.. Gas certifications are on file at the Norlite Plant for review.

CYLINDER TANK ID	COMPONENT	AUDIT VALUE	PSI \ EXPIRATION
XCO256693	N2	ULTRA PURE N2	2000 / NA
CC186413	CO O ₂	70.0 ppm 9.011 %	1800 \ 2-19-13
CC23222	CO O ₂	149.5 ppm 15.06 %	1500\ 11-4-11
CC137876	СО	1058 ppm	1800 \ 4-6-13
CC37552	co	2320 ppm	1500\ 2-17-13

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

CEM SOLUTIONS

E. Mark Krizar Project Engineer

Attachments Summary field data sheets

NORLITE, KILN 1A CE FIELD DATA SUMMARY SEPTEMBER 21, 2010

Analyzer: O2

Serial No.: B7-066

Range = 0 to 25

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	0.1	0.1		en er er de de la
2 - MID	9.011	9.0		-0.011	
3 - HIGH	15.06	15.0			-0.06
4 - MID	9.011	9.0		-0.011	HEL 7. 45 45 4187
5 - LOW	0.0	0.0	0		
6 - HIGH	15.06	15.0) X M D#C		-0.06
7 - LOW	0.0	-0.1	-0.1		Bulati, paggyarasya
8 - MID	9.011	9.0		-0.011	
9 - HIGH	15.06	15.0			-0.06
			0.0	0.0	-0.1
		ACCURACY =	0.0	0.0	-0.1

Analyzer: CO

Serial No.: B7-889

Range = 0 to 200

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	-0.3	-0.3	re Agetag	reserve e c
2 - MID	70.0	68.1		-1.9	
3 - HIGH	149.5	143.5			-6.0
4 - MID	70.0	68.2	and stan	-1.8	- Amama
5 - LOW	0.0	0.3	0.3		
6 - HIGH	149.5	142.5	Gregor Assum	etaria kasuda e kulari	-7.0
7 - LOW	0.0	0.1	0.1	13 5 6 6 6 5 9 9	AND AND RE
8 - MID	70,0	67.7		-2.3	
9 - HIGH	149.5	144.3		ielespas (f	-5.2
-	MEAN	DIFFERENCE =	0.0	-2.0	-6.1
		ACCURACY =	0.0	-1.0	-3.0

Analyzer: CO

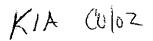
Serial No.: B7-889

Range = 0 to 3000

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	2.1	2.1		
2 - MID	1058	1024.0		-34.0	
3 - HIGH	2320	2284.2		al course about a	-35.8
4 - MID	1058	1022.2		-35.8	
5 - LOW	0.0	2.1	2.1	対きに建設した	
6 - HIGH	2320	2294.1			-25.9
7 - LOW	0.0	0.9	0.9		
8 - MID	1058	1021.6	PAYES FORM	-36.4	erak dajah j
9 - HIGH	2320	2289.3			-30.7
	MEAN	DIFFERENCE =	1.7	-35.4	-30.8
		ACCURACY =	0.1	-1.2	-1.0

CEM Solutions Hudson, NY

Analyzer CO = \leq 5% span / O2 \leq 0.5 O2



Audit Data

Norlite Corporation

Data for 9/21/2010 8:29:40 AM thru 9/21/2010 9:05:00 AM from '2010-09-21 08:29.cea'

imestamp	(Kiln 1/Train A) CG ppm	(Kiln 1/Train A) 02%			 namana, para-manda cardo de político de differencia de 1980 (1980 (1980 (1980 (1980 (1980 (1980 (1980 (1980 (1
:29:40 AM	15.6	13.9			
:30:00 AM	12.4	16.4			
30:20 AM	5.4	0.4			
:30:40 AM	1.6	0.2			
:31:00 AM	0.5	0.2			
:31:20 AM	-0.2	0.2			
:31:40 AM	-0.2	0.1			
:32:00 AM	1.1	0.1			
:32:20 AM	-0.1	0.1			
:32:40 AM	-0.7	0.1			
:33:00 AM	-0.3	9.1	ż		
:33:20 AM	4.1	10.9			
:33:40 AM	23.4	7.6			
:33:40 AM	56.3	9.0			
	56.3 64.6	9.0			
:34:20 AM					
:34:40 AM :35:00 AM	66.9 e7.4	0.6			
	67.1	9.0			
:35:20 AM	67.4	9.0			
:35:40 AM	67.2	6.6	-		
1:36:00 AM	67.4	8.9			
1:36:20 AM	68.1	9.0	-m		
35:40 AM	66.9	9.2			
37:00 AM	84.0	13.7			
3:37:20 AM	13D.8	14.9			
3:37:40 AM	141.7	15.0			
3:38:00 AM	144.7	15.0			
8:38:20 AM	143.8	15.0			
3:38:40 AM	144.6	15.0			
3:39:00 AM	145.0	14.9			
3:39:20 AM	144.3	14.9			
3:39:40 AM	144.8	14.8			
3:40:00 AM	143.5	15.0	/_1		
3:40:20 AM	134.3	14.8	_ ' \		
3:40:40 AM	98.3	9.3	·		
3:41:00 AM	72.6	9.1			
3:41:20 AM	68.3	9.0			
3:41:40 AM	58.1	9.0			
3:42:00 AM	67.9	9.1			
3:42:20 AM	67.9	9.0	\$		
8:42:40 AM	57.2	9.0			
3:43:00 AM	67.4 sp. 5	0.G	~		
8:43:20 AM	58.2 56.7	9.0	- rh		
8:43:40 AM	66.7	9.3			
8:44:00 AM 3:44:20 AM	34.7 6.9	0.6 0.0			

GeDAR Reports 9/21/2010 9:05 AM, Andit Data

limestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%	
8:44:40 AM	2.5	0.0	
8:45:00 AM	0.9	0.0	
8:45:20 AM	0.4	0.0	
8:45:40 AM	9.1	0.0	
8:46:00 AM	.0.2	0.0	
8:46:20 AM	0.9	0.0	
8:46:40 AM	0.6	0.0	
B:47:00 AM	0.3	0.0	
8:47:20 AM	0.3	0.0	
8:47:40 AM	0.3	0.0	
8:48:00 AM	1.0	3.3	
8:48:20 AM	60.4	13.6	
8:48:40 AM	125,2	14.8	
8:49:00 AM	139.7	14.9	
8:49:20 AM	143.8	14.9	
8;49:40 AM	144.9	14.9	
8:50:00 AM	145.2	14.9	
8:50:20 AM	144.2	15.0	
8:50:40 AM	144.5	14.9	
8:51:00 AM	144.8	14.9	
8:51:20 AM	145.2	15.0	
8:51:40 AM	142.5	15.0	11
8:52:00 AM	56.2	0.5	7
8:52:20 AM	13.1	0.1	
8:52:40 AM	2.5	0.0	
8:53:00 AM	-0.1	0.0	
	9.4	0.0	
8:53:20 AM	0.4	0.0	
8:53:40 AM			
8:54:00 AM	-0.1 0.7	0.0	
8:54:20 AM	-0.7	0.0	
8:54:40 AM	-0.6	0.0	
8:55:00 AM	0.1	ō:0	
8:55:20 AM	0.0	0.0	
8:55:40 AM	0.3	-0.1	
8:56:00 AM	0.1	-0-1	
8:56:20 AM	0.4	-0.1	
8:56:40 AM	0.8	-0.1	
8:57:00 AM	0.5	-0.1	
8:57:20 AM	0.3	-0.1	,
8:57:40 AM	0.1	-0.1	
8:58:00 AM	23.0	7.5	•
8:58:20 AM	58.1	8.9	
8:58:40 AM	65.5	9.0	
8:59:00 AM	66,2	9.0	
8:59:20 AM	67.0	9.0	
8:59:40 AM	67.4	9,0	
9:00:00 AM	67.3	9.0	
9:00:20 AM	66.3	9.0	
9:00:40 AM	86.9	9.0	

GeDAR Reports 9/21/2010 9:05 AM, Audit Data

limestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%
9:01:00 AM	67.7	9.0
9:01:20 AM	67.7	9.0
9:01:40 AM	65.0	9.9
9:02:00 AM	122.6	14.9
9:02:20 AM	140.5	15.0
9:02:40 AM	144.1	14.9
9:03:00 AM	145.5	15.0
9:03:20 AM	144.5	15.0
9:03:40 AM	144.8	15.0
9:04:00 AM	145.3	15.0
9:04:20 AM	144.3	15.0
9:04:40 AM	143.1	18.0
9:05:00 AM	144.3	16.0
Average	62.0	7.6
Minimum	-0.7	-0.1
Maximum	145.5	16.4

Keln 1 A

Audit Data

Norlite Corporation

Data for 9/21/2010 9:44:20 AM thru 9/21/2010 10:20:00 AM from '2010-09-21 09:44.cea'

Timestamp	(Kiln 1/Train A) GO ppm	(Kiln-1/Train A) O2%	•
9:44:20 AM	2.7	-0.1	Market and the property of the second
9:44:40 AM	2.7	-0.1	
9:45:00 AM	-1.0	-0.1	
9:45:20 AM	2.1	-0.1	
9:45:40 AM	218.8	0.9	
9:46:00 AM	881.9	-0_1	
9:46:20 AM	992.0	-0.1	
9:46:40 AM	1016,6	-0.1	
9:47:00 AM	1020.4	-0.1	
9:47:20 AM	1018.9	-0.1	
9:47:40 AM	1022.2	-0.1	
9:48:00 AM	1020.4	-0.1	
9:48:20 AM	1022.5	-0.1	
9:48:40 AM	1024.6	-0.2	
9:49:00 AM	1024.0	0.0	
9:49:20 AM	1822.4	0.1	
9:49:40 AM	2183.9	-0.1	
9:50:00 AM	2272,1	-0.1	
9:50:20 AM	2290.2	-0.1	
9:50:4 0 AM	2283.8	-0.1	
9:51:00 AM	2289.3	-0.1	
9:51:20 AM	2286.3.	-0.1	
9:51: 40 AM	2284.2	0.0	•
9:52:00 AM	2285.7	t.o-	
9:52:20 AM	2284.8	-0.1	
9:52:40 AM	2290.8	-0.1	•
9:53:00 AM	2284.2	- O .1	
9:53:20 AM	2284.2	-0.1	\sqcup
9:53:40 AM	1730.0	2.3	' }
9:54:00 AM	1268.2	0.0	
9:54:20 AM	1058.4	-0.1	
9:54:40 AM	1027.7	-0.1	
9:55:00 AM	1017.4	-0.1	
9:55:20 AM	1019.2	~ 0 ,1	
9:55:40 AM	1025.2	-0.2	
9:56:00 AM	1023.4	-0.1	
9:56:20 AM	1020.4	-0.1	
9:56:40 AM	1022.5	-0.1	
9:57:00 AM	1022.2	-0.2	
9:57:20 AM	1022.8	-0.2	
9:57:40 AM	1024.6	-9.2	
9:58:00 AM	1022.2	-0.1	m
9:58:20 AM	897.3	1.3	-1-1-
9:58:40 AM	147.8	-0.4	
9:59:00 AM	36.5	-0.1	

CeDAR Reports 8/21/2010 10,20 AM, Audit Data

Timestamp	(Kila 1/Train A) CO ppm	(Kitn 1/Train A) 02%	
9:59:20 AM	12.6	-0.1	
3:59:40 AM	6.9	-0.1	
10:00:00 AM	5.7	-0.1	
10:00:20 AM	4.5	~0.1	
10:00:40 AM	2.1	-0.1	
10:01:00 AM	3.3	-0,1	
10:01:20 AM	0.3	-0.1	
10:01:40 AM	2.1	-0.2	
10:02:00 AM	2.7	-0.2	
10:02:20 AM	-1.0	-0.1	
10:02:40 AM	2.1	-0.1	
	2.1	-0.1	
10:03:00 AM			
10:03:20 AM	0.9 0.9	-0.1 -0.1	
10:03:40 AM		-0.1 -0.1	
10:04:00 AM 10:04:20 AM	-0.4	-0.1 -0.1	
	2.1 1.5	6.9	· Lan
10:04:40 AM	1826.3	0.4	
10:05:00 AM		-0.1	
10:05:20 AM	2178.8	-0.1	
10:05:40 AM	2270.9	-0.1	
10:06:00 AM	2293.8	-0.1	
10:06:20 AM	2289.3	-0.1	
10:06:40 AM	2292.6		
10:07:00 AM	2292.0	-0.1	•
10:07:20 AM	2286.9	-0.1	
10:07:40 AM	2293.2	~0.1	
10:08:00 AM	2287.5	-0.1	
10:08:20 AM	2294.1	-0.1	\mathcal{H}
10:08:40 AM	697.2	0.0	
10:09:00 AM	112.8	-0.2	
10:09:20 AM	33.5	-0.2	
10:09:40 AM	10.8	-0.2	
10:10:00 AM	5.1	-0.2	
10:10:20 AM	4.5	-0.2	
10:10:40 AM	5.1	-0.2	
10:11:00 AM	3.9	-0.1	
10:11:20 AM	4.5	-0.2	
10:11:40 AM	1.5	-0.2	
10:12:00 AM	1.5	-0.2	
10:12:20 AM	0.9		
10:12:40 AM	0.9	1.1	
10:13:00 AM	745.2	-0.1	
10:13:20 AM	965.2	-0.1	
10:13:40 AM	1012.6	-0.2	
10:14:00 AM	1024.3	-0.1	
10:14:20 AM	1022.2	-0.1	
10:14:40 AM	1024.0	-0.1	
10:45:00 AM	1021.6	-0.1	
10:15:20 AM	1018.0	-0.1	

GeDAR Reports 9/21/2010 10,20 AM, Audit Data

Timestamp	(Kiln 1/Train A) CO ppra	(Kiln 1/Train A) O2%)
10:15:40 AM	1025.2	-0.2	
10:16:00 AM	1024.3	-0.1	•
10:16:20 AM	1021.6	0.1	n.
10:16:40 AM	1993.5	-0.1	The state of the s
10:17:00 AM	2233.7	-0.1	
10:17:20 AM	2288.7	-0.1	
10:17:40 AM	2296.2	-0.2	
19:18:00 AM	2292.6	-0,1	
10:18:20 AM	2292.0	-0.1	
10:18:40 AM	2290.8	-0.1	
10:19:00 AM	229 5.9	-0.1	
10:19:20 AM	2294.1	-0.1	
10:19:40 AM	2289.3	-0.1	L
10:20:00 AM	2264.8	1.5	
Average	1084.1	0.0	
Minimum	-1.0	-0.2	
Maximum	2296.2	6.9	

NORLITE, KILN 1B CE FIELD DATA SUMMARY SEPTEMBER 21, 2010

Analyzer: O2

Serial No.: B7-067

Range = 0 to 25

RUN	AUDIT	MONITOR	DIFFERENCE			
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH	
1 - LOW	0.0	0.0	0.00			
2 - MID	9.011	8.9		-0.11		
_ 3 - HIGH	15.06	14.9		Table of "Editors a	-0.16	
4 - MID	9,011	8.9		-0.11	3/14/5/8/20	
5-LOW	0.0	0.0	0.00	8827 Y (4.7%)		
6 - HIGH	15.06	14.9	TENDING SE		-0.16	
7 - LOW	0.0	0.0	0.00	1 21 - 22 - 22		
8 - MID	9.011	8.9		-0.11		
9 - HIGH	15.06	14.9			-0.16	
	MEAN	DIFFERENCE =	0.0	-0.1	-0.2	
		ACCURACY =	0.0	-0.1	-0.2	

Analyzer: CO

B7-890

Range = 0 to 200

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	-0.4	-0.4	ASSET THE SAME	
2 - MID	70.0	66.9		-3.1	
3 - HIGH	149.5	146.7		Visit Sendos VII is	-2.8
4 - MID	70.0	68.3		-1.7	3.74 Ext. (2.42
5-LOW	0.0	-1.2	-1.2		
6 - HIGH	149.5	147.4			-2.1
7 - LOW	0.0	-2.1	-2.1		2.1 (2.56 - 5.685)
8 - MID	70.0	66.6		-3.4	
9 - HIGH	149.5	145,8			-3.7
	MEAN	DIFFERENCE =	-1.2	-2.7	-2.9
		ACCURACY =	-0.6	-1.4	-1.4

Analyzer: CO

Serial No.: B7-890

Range = 0 to 3000

RUN	AUDIT	MONITOR		DIFFERENCE	·
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	-1.1	-1.1		44/01/20/20/20/20/20/20/20/20/20/20/20/20/20/
2 - MID	1058	1039.8	建 克克克斯特克克克克	-18.2	
3 - HIGH	2320.0	2285.8	蒙尼亚尔克奇		-34.2
4 - MID	1058	1047.9		-10.1	
5 - LOW	0.0	5.8	5.8	el digital des supply and the	NASSAGE
6 - HIGH	2320.0	2279.8			-40.2
7 - LOW	0.0	4.9	4.9		10.2 27.4 Galassa
8 - MID	1058	1039.2	AND STREET	-18.8	·泰尔克斯泰洛拉
9 - HIGH	2320.0	2267.5	agree de GMAN. Seesand	10.0	-52.5
	MEAN	DIFFERENCE =	3.2	-15.7	-42.3
		ACCURACY =	0.1	-0.5	-1.4

CEM Solutions Hudson, NY

Analyzer CO = \leq 5% span / O2 \leq 0.5 O2

Ken 1B Cdoz

Audit Data

Norlite Corporation

Data for 9/21/2010 10:57:40 AM thru 9/21/2010 11:36:00 AM from '2010-09-21 10.57.cea'

Timestamp	(Kiln t/Train B) GO ppm	(Kilin:1/Train B) O2%	
10:57:40 AM	9.6	0.1	
10:58:00 AM	-1.5	0.1	
10:58:20 AM	0.7	0.1	
10:58:40 AM	£.G	0.1	
10:59:00 AM	0.8	0.1	
10:59:20 AM	2.2	0.0	
10:59:40 AM	1.2	0.0	
11:00:00 AM	1.2	9.9	
11:00:20 AM	-1.8	9.0	
11:00:40 AM	1.7	0.0	
11:01:00 AM	1.3	0.0	
11:01:20.AM	0.5	0.0	
11:01:40 AM	0.4	0.0	~/
11:02:00 AM	3.9	4.3	The state of the s
11:02:20 AM	48.6	8.8	
11:02:40 AM	65.0	8.9	
11:03:00 AM	67.6	8.9	
11:03:20 AM	67.9	8.9	
11:03:40 AM	68.7	8.9	·
11:04:00 AM	69.5	8.9	
11:04:20 AM	69.4	8.9	
11:04:40 AM	66,9	8.9	
11:05:00 AM	66.5	8.9	
11:05:20 AM	67.6	8.9	
11:05:40 AM	8 8. 3	8.9	
11:06:00 AM	67.5	8.9	
11:06:20 AM	66.9	8.9	m
11:06:40 AM	84.1	13.8	• 1
11:07:00 AM	130.5	14.9	
11:07:20 AM	141.8	14.9	
11:07:40 AM	144.8	14.9	
11:08:00 AM	146.5	14.9	
11:08:20 AM	147.0	14.9	
11:08:40 AM	144.8	14.9	
11:09:00 AM 11:09:20 AM	146.0	14.9	
11:09:40 AM	147.4 145.7	14.9 14.9	
11:10:00 AM	144.6	14.9	
11:10:00 AW	146.7	14.9	
11:10:40 AM	(40.0	14.8	
11:11:00 AM	102.8	9.1	
11:11:20 AM	76.1	9.0 0.e	
11:11:40 AM	69.7	9.0	
11:12:00 AM	68.3	5.0 8.9	
11:12:20 AM	56.8	9.0	

GeDAR Reports 9/21/2010 f1,36 AM, Audit Data

limestamp	(Kiln 1/Train B) GO ppm	(Kiln 1/Train B) 02%	
11:12:40 AM	66.2	9.0	
11:13:00 AM	68.2	9.0	
11:13:20 AM	69.1	9.0	
11:13:40 AM	68.3	8.9	m
11:14:00 AM	56.1	2.1	1 " 1
11:14:20 AM	15.8	0.1	
11:14:40 AM	3.0	6.1	
11:15:00 AM	-0.4	0.1	
11:15:20 AM	-1.9	0.1	
11:15:40 AM	-1.3	0.1	
11:16:00 AM	-0.9	0.1	
11:16:20 AM	-1.4	0.0	
11:16:40 AM	-1.7	0.0	
11:17:00 AM	-2.1	0.0	
11:17:20 AM	-1.7	0.0	
11:17:40 AM	-1. <i>i</i> -2.2	0.0	
11:18:00 AM	-2.8	0.0	
11:18:20 AM 11:18:40 AM	-1.5 -1.2	0.0 0.0	ſ
11:18:40 AW	-1.2 1.3		-L
		6.1	
11:19:20 AM	54.8	13.8	
11:19:40 AM	121.9	14.8	
11:20:00 AM	140.6	14.8	
11:20:20 AM	145.2	14.8	
11:20:40 AM	145.3	14.9	
11:21:00 AM	144.6	14.8	
11:21:20 AM	146.5	14.9	
11:21:40 AM	146.9	14.9	
11:22:00 AM	145.4	14.9	
11:22:20 AM	146.0	14.9	
11:22:40 AM	147.4	14.9	
11:23:00 AM	143.0	14.5	(μ)
11:23:20 AM	100.0	2.0	
11:23:40 AM	26.2	9;1	
11:24:00 AM	5.0	9.1	
11:24:20 AM	0.7	0.0	
11:24:40 AM	-1.7	0.0	
11:25:00 AM	-1.9	0.0	
f1:25:20 AM	-1.1	0.0	
11:25:40 AM	-1.0	0,0	
11:26:00 AM	-2.3	0.0	
11:26:20 AM	-2.4	0.0	
11:26:40 AM	-1.7	0.0	
11:27:00 AM	-2.1	0.0	
11:27:20 AM	-2.1	0.0	j
11:27:40 AM	9.1	6,5	
11:28:00 AM	51.7	8.8	
11:28:20 AM	041.7 85.8	9.9 9.9	
11:28:40 AM	67. 6	8.9 8.9	
TLEG. HU PUVI	D.10 William William	5.5	

CeDAR Reports 9/21/2010 11,35 AM, Audit Data

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%
11:29:00 AM	68.0	6.9
11:29:20 AM	69.5	8.9
11:29:40 AM	68.5	8.9
11:30:00 AM	67.9	8.9
11:30:20 AM	67.0	8.9
11:30:40 AM	ö8.4	8.9
11:31:90 AM	67,4	8.9
11:31:20 AM	66.6	8.9
11:31:40 AM	66. <u>6</u>	8.9
11:32:00 AM	66.0	9.2
11:32:20 AM	105.8	14.7
11:32:40 AM	136.7	14.9
11:33:00 AM	143.4	14.9
11:33:20 AM	145.5	14.9
11:33:40 AM	146.6	14.9
11:34:00 AM	146.2	14.9
11:34:20 AM	146.1	14.9
11:34:40 AM	146.8	14.9
11:35:00 AM	147.9	14.9
11:35:20 AM	146.3	14.9
11:35:40 AM	144.6	14.9
11:35:40 AM	144.0 145.8	14.9
		
Average Minimum	66.3 -2.8	7.6 0.0
Maximum Maximum	147.9	14.9



Audit Data

Norlite Corporation

Data for 9/21/2010 11:38:20 AM thru 9/21/2010 12:18:20 PM from '2010-09-21 11:38.cea'

Timestamp	(Kiin 1/Train B) CO ppm	(Kiln 1/Train B) 02%		
11:38:20 AM	-0.5	0.0		
11:38:40 AM	-1.1	0.0		•
11:39:00 AM	0.1	0.0		
11:39:20 AM	1.3	0.0		
11:39:40 AM	-0.5	0.0		
11:40:00 AM	-1.7	0.0		
11:40:20 AM	0.1	0.0		
11:40:40 AM	1.3	0.0		
11:41:00 AM	-0.5	ŭ.O		
11:41:20 AM	-1.1	0.0	_ /	
11:41:40 AM	332.8	0.4		
11:42:00 AM	843.0	0.0	•	
11:42:20 AM	994.9	0.0		
11:42:40 AM	1029.5	9.0		
11:43:00 AM	1043.1	0.0		
11:43:20 AM	1036.8	0.0		
11:43:40 AM	1036.2	0.0		•
11:44:00 AM	1042.8	0.0		
11:44:20 AM	1039.2	0.0		
11:44:40 AM	1041.0	0.0		
11:45:00 AM	1039.8	0.0		
11:45:20 AM	1043.1	0.0		
11:45:40 AM	1040.4	0.0		
11:46:00 AM	1039.2	0.0		
11:46:20 AM	1039.8	0.0		
11:46:40 AM	1039.8	0.0	n -	
11:47:00 AM	1116.5	0.3	-101	
11:47:20 AM	1984.4	0.0		
11:47:40 AM	2214.2	0.0	•	
11:48:00 AM	2271.7	0.0		
11:48:20 AM	2285.5	0.0		
11:48:40 AM	2285.2	0.0		
11:49:00 AM	2279.5	0.0		
11:49:20 AM	2282.5	0.0		
11:49:40 AM	2285.5	0.0		•
11:50:00 AM	2284.6	0.0		
11:50:20 AM	2284.0	0.0		
11:50:40 AM	2284.3	0.0		
11:51:00 AM	2289.4	0.0		
11:51:20 AM	2286.4	0.0		
11:51:40 AM	2283.4	0.0	•	
11:52:00 AM	2285.8	0.0	LI	
11:52:20 AM	1517.8	0.2	-/-	
11:52:40 AM	1200.4	0.0		
11:53:00 AM	1078,9	-0.1		-

CaDAR Reports 9/21/2010 12,18 PM, Audit Data

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%		ana wanishana
11:53:20 AM	1045.8	0.0		
11:53:40 AM	1045.8	0.0		
11:54:00 AM	1042.2	0,0		
11:54:20 AM	1039.8	0.0		
11:64:40 AM	1045.2	-0.1		
11:55:00 AM	1042.8	9,0		
11:55:20 AM	1045.5	0.0		
11:55:40 AM	1047.9	-0.1	- h -	
11:56:00 AM	999.8	2.3	12)	
11:56:20 AM	322.3	0.0		
11:56:40 AM	94.0	-0.1		
11:57:00 AM	27.8	0.0		
11:57:20 AM	10.9	-0.1		
11:57:40 AM	8.8	0.0		
11:58:00 AM	7.3	0.0		
11:58:20 AM	3.7	0.0		
11:58:40 AM	4.9	0.0		
11:59:00 AM	4.9	0.0		
11:69:20 AM	7.6	0.0		
11:59:40 AM	4.9	-0.1		
12:00:00 PM	5.8	0.0		
12:00:20 PM	6.7	1.4		
12:00:40 PM	1190.5	0,3		
12:01:00 PM	1997.9	0.0		
12:01:20 PM	2217.5	0.0		
12:01:40 PM	2271.4	0.0		
12:02:00 PM	2283.1	0.0		
12:02:20 PM	2281.3	0.0		
12:02:40 PM	2283.1	0.0		
12:03:90 PM	2283.1	0.0		
12:03:20 PM	2281.3	0.0		
12:03:40 PM	2280.4	0.0		
12:04:00 PM	2278.9	0.0		
12:04:20 PM	2282.5	0.0		
12:04:40 PM	2279.2	0.0		
12:05:00 PM	2283.1	0.0		
12:05:20 PM	2279.8	0.0		
12:05:40 PM	2279.8	0.0	, /	
12:06:00 PM	872.2	0.1	//	
12:06:20 PM	201.4	-0.1		
12:06:40 PM	58.5	0.0		
12:07:00 PM	21.8	0.0		
12:07:20 PM	13.6	0.0		
12:07:40 PM	11.2	0.0		
12:08:00 PM	8.2	0.0		
12:08:20 PM	8.5	0.0		
12:08:40 PM	9.1	0.0		
12:00:40 FM	5.1 6.7	5.0 5.0		
12:09:20 PM	6.7	0.0		

CaDAR Reports 9/21/2010 12:18 PM, Audit Data

(imestamp	(Kiln 1/Train 8) CO ppm	(Kiln 1/Train B) O2%	
12:09:40 PM	7.6	0.0	
12:10:00 PM	4.3	0.0	
12:10:20 PM	4.9	0.0	,
12:10:40 PM	585.2	0.1	
12:11:00 PM	872.2	0.0	
12:11:20 PM	1000.7	0.0	
12:11:40 PM	1031.0	0.0	
12:12:00 PM	1034.7	0.0	
12:12:20 PM	1039.2	0.0	
12:12:40 PM	1035.6	0.0	
12:13:00 PM	1038.0	0.0	
12:13:20 PM	1034.7	0.0	
12:13:40 PM	1039.2	0.0	V)
12:14:00 PM	1588.5	0.0	4 4
12:14:20 PM	2043.9	0.0	
12:14:40 PM	2215.7	0.0	
12:15:00 PM	2254.2	0.0	
12:15:20 PM	2262.0	0.0	
12:15:40 PM	2262.0	0.0	
12:16:00 PM	2261.7	0.0	
12:16:20 PM	2269.3	0.0	
12:16:40 PM	2271.4	0.0	
12:17:00 PM	2267.2	0.0	
12:17:20 PM	2269.9	0.0	
12:17:40 PM	2270.2	0,0	
12:18:00 PM	2272.9	0.0	4
12:18:20 PM	2267.5	0.0	1
Average	1166.3	0.0	
Minimum	-1.7	-0.1	
Maximum	2289.4	2.3	

NORLITE, KILN 2A **CE FIELD DATA SUMMARY SEPTEMBER 21, 2010**

Analyzer: O2

Serial No.: AO2-611

Range = 0 to 25

RUN	AUDIT	MONITOR		DIFFERENCE			
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH		
1-LOW	0.0	0.0	0.00				
2 - MID	9.011	8.8		-0.211			
3 - HIGH	15.06	14.9		Bing of the	-0.16		
4 - MID	9.011	8,9		-0.111	ir (talgraig)		
5 - LOW	0.0	0.0	0.00				
6 - HIGH	15.06	14.9	erick between		-0.16		
7 - LOW	0.0	0,0	0.00				
8 - MID	9.011	8.8	EGine OK	-0.211			
9 - HIGH	15.06	14.8	Article (1)		-0.26		
	MEAN	DIFFERENCE =	0.0	-0.2	-0.2		
		ACCURACY =	0.0	-0.2	-0.2		

Analyzer: CO

Serial No.: XO7-400

Range = 0 to 200

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	-0.1	-0.1	nate sta	hunkerala
2 - MID	70.0	72.7	9,526 9.1.X	2.7	
3 - HIGH	149.5	151,0			1.5
4 - MID	70.0	72.2	& Book on	2.2	
5 - LOW	0,0	-0.5	-0.5		ga eradas kirki Kanadas kirki
6 - HIGH	149.5	150.5	tork Királkok		1.0
7 - LOW	0.0	0.4	0.4		date water
8 - MID	70.0	72.2		2.2	
9 - HIGH	149.5	149.9		MORE SA	0.4
	MEAN	DIFFERENCE =	-0.1	2.4	1.0
		ACCURACY =	0.0	1.2	0.5

Analyzer: CO

Serial No.: X07-400

Range = 0 to 3000

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LÓW	MID	HIGH
1 - LOW	0.0	0.3	0.3	8 1 60 304 1	Andres
2 - MID	1058	1031.8		-26.2	la de la comi
3 - HIGH	2320	2256.1		Caving Library	-63.9
4 - MID	1058	1037.0		-21	eren (n. British Bri
5 - LOW	0.0	2.7	2.7	at Evren	
6 - HIGH	2320	2255.8			-64.2
7 - LOW	0.0	1.5	1.5		- 19 19 agg 45 75 9
8 - MID	1058	1028.1		-29.9	lvárástírás
9 - HIGH	2320	2252,1			-67.9
	MEAN	DIFFERENCE =	1.5	-25.7	-65.3
		ACCURACY =	0.1	-0.9	-2.2

CEM Solutions Hudson, NY

Analyzer CO = \leq 5% span / O2 \leq 0.5 O2

while many

Audit Data

Norlite Corporation

Data for 9/21/2010 12:25:00 PM thru 9/21/2010 1:05:00 PM from '2010-09-21 12:24.cea'

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%	
12:25:00 PM	6,4	0.1	
12:25:20 PM	-0.3	0.0	
12:25:40 PM	-0.3	0.0	
12:26:00 PM	-0.2	0.0	
12:26:20 PM	0.1	0.0	
12:26:40 PM	0.2	0.0	
12:27:00 PM	-0.1	0.0	
12:27:20 PM	-0.3	0.0	
12:27:40 PM	-0.1	0.0	,
12:28:00 PM	12.3	8.1	
12:28:20 PM	48.1	8.8	
12:28:40 PM	64.8	8.8	
12:29:00 PM	69.7	8.8	
12:29:20 PM	71.3	8.8	
12:29:40 PM	7 2.0	8.8	
12:30:00 PM	72.0	8.8	
12:30:20 PM	72.4	8.8	
12:30:40 PM	72.7	8.8	
12:31:00 PM	72.5	8.8	
12:31:20 PM	72.7	88 1	
12:31:40 PM	70.8	11.3	1
12:32:00 PM	109.2	14.8	
12:32:20 PM	135.5	14.9	
12:32:40 PM	145.3	14.9	
12:33:00 PM	149.0	14.9	
12:33:20 PM	148.9	14.9	
12:33:40 PM	149.8	14.9	
12:34:00 PM	149,6	14.9	
12:34:20 PM	149.6	14.9	
12:34:40 PM	150.0	14.9	
12:35:00 PM	150.3	14.9	
12:35:20 PM	150.8	14.9	
12:35:40 PM	151.0	14.9	
12:36:00 PM	148.8	· · · · · · · · · · · · · · · · · · ·	- (
12:36:20 PM	111.4	13.2 ′	•
12:36:40 PM	85:6	8.9	
12:35:40 PM	76.6	9.8	
		8.8	
12:37:20 PM	73.8	8.8	
12:37:40 PM	72.6	8.9	
12:38:00 PM	72.4	8.9	
12:38:20 PM	72.4	8.8	
12:38:40 PM	72.2	8.8	
12:39:00 PM	72.6	8.9	
12:39:20 PM	72.5	8.8	
12:39:40 PM	72.6	8.9	

GBDAR Reports 8/21/2010 1,05 PM, Audit Date

Timestamp	(Kiln 2/Train A) CO ppni	(Kiln 2/Train A) O2%	
12:40:00 PM	72.4	8.8	
12:40:20 PM	72.3	8.8	
12:40:40 PM	72.8	8.8	
12:41:00 PM	72.9	8.8	
12:41:20 PM	72.5	8.8	
12:41:40 PM	72.5	8.8	
12:42:00 PM	72.6	8.8	
12:42:20 PM	73.1	8.8	
12:42:40 PM	72.7	8.8	
12:43:00 PM	72.2	8,9	725
12:43:20 PM	49.2	0.3	, /
12:43:40 PM	17.8	0:0	
12:44:00 PM	6.6	0.0	
12:44:20 PM	1.4	0.0	
12:44:40 PM	0.1	0.0	
12:45:00 PM	-0.2	0.0	
12:45:20 PM	-0.2	0.0	
12:45:40 PM:	-0.5	0.0	
12:46:00 PM	-0.5	0.0	1
12:46:20 PM	4.5	9.7	<u> </u>
12:46:40 PM	81.8	14.7	
12:47:00 PM	126.4	14.8	
12:47:20 PM	143.0	14.8	
12:47:40 PM	148.0	14.8	
12:48:00 PM	149.3	14.9	
12:48:20 PM	149.6	14.9	
12:48:40 PM	149.9	14.8	
12:49:00 PM	150.2	14.8	
12:49:20 PM	150.9	14.8	
12:49:40 PM	150.5	14.8	
12:50:00 PM	150.9	14.8	
12:50:00 FM	150.7	14.8	
12:50:40 PM	150.7	14.8	
12:51:00 PM	150,6 150,5		
•		14.9	
12:51:20 PM	150.4	14,8	
12:51:40 PM	150.8	14.9	
12:52:00.PM	150.1	14.8	
12:52:20 PM	150.5	14.9	
12:52:40 PM	150.4	14.9	
12:53:00 PM	150.6	14.8	a. 7
12:53:20 PM	150.5	149	F-(
12:53:40 PM	145.0	5.7	,
12:54:00 PM	67.3	0.2	
12:54:20 PM	23.6	0.1	
12:54:40 PM	0.8	0.1	
12:55:00 PM	2.8	0.1	
12:55:20 PM	1.2	0.0	
12:55:40 PM	0.9	0.1	
12:56:00 PM	ò.5	0.1	
- 4-100-00 1 191	9.0	V. 1	

GeDAR Reports 9/21/2010 1:05 PM. Audit Data

fimestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) 02%	
12:56:20 PM	0;2	0.0	
12:56:40 PM	0.0	0.0	
12:57:00 PM	0.4	0,0	,
12:57:20 PM	0.6	2.2	
12:57:40 PM	35.5	8.7	
12:58:00 PM	59.5	8.8	
12:58:20 PM	68.3	8.8	
12:58:40 PM	71.9	8.8	
12:59:00 PM	72.5	8.8	
12:59:20 PM	73,0	8.8	
12:59:40 PM	72.9	8.8	
1:00:00 PM	72.6	8.8	
1:00:20 PM	73.1	8.9	
1:00:40 PM	72.7	8.8	
1:01:00 PM	72,3	8.8	
1:01:20 PM	72.2	8.8	
1:01:40 PM	72.8	12.1	トヽ
1:02:00 PM	113,0	14.8	
1:02:20 PM	137.4	14.8	
1:02:40 PM	146.0	14.9	
1:03:00 PM	148.6	14.8	
1:03:20 PM	149.0	14.8	
1:03:40 PM	149.4	14.9	
1:04:00 PM	149.6	14,9	
1:04:20 PM	149.6	14.9	
1:04:40 PM	149.9		+1
1:05:00 PM	125.2	4,3	- 1
Average	82.1	8.8	
Minimum	-0.5	0.0	
Maximum	151.0	14.9	

COH ZA

Audit Data

Norlite Corporation

Data for 9/21/2010 1:08:40 PM thru 9/21/2010 1:45:00 PM from '2010-09-21 13.08.cea'

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%				
1:05:40 PM	-0.3	0.0			 	
1:09:00 PM	-3.4	0.0				
1:09:20 PM	-0.9	0.1				
1:09:40 PM	-2.1	0.0		•		
1:10:00 PM	0.3	0.0	7			
1:10:20 PM	6.0	6.0				
1:10:40 PM	374.3	0.1				
1:11:00 PM	78 3.1	0.1				
1:11:20 PM	949,9	0.0				
1:11:40 PM	1003.7	0.0				
1:12:00 PM	1022.6	0.0				
1:12:28 PM	1030.6	0.1				
1:12:40 PM	1032.4	0.0				
1:13:00 PM	1033.0	0.0				
1:13:20 PM	1031.5	0.0				
1;13:40 PM	1033.3	0.0				
1:14:00 PM	1028 7	0.0				
1:14:20 PM	1030.9	0.0				
1:14:40 PM	1031.8	<u>no</u>	th			
1:15:00 PM	1228.9	0.7				
1:15:20 PM	1785.2	0.0				
1:15:40 PM	2097.8	0,0				
1:16:00 PM	2208.1	0.0				
1:16:20 PM	2241.4	. 0.0				
1:16:40 PM	2253.6	0.0				
1:17:00 PM	2254.2	0.0				
1:17:20 PM	2252.7	0.0				
117:40 PM	2255.8	0,0				
1:18:00 PM	2255.8	0.0				
1:18:20 PM	2255.5	0.0				•
1:18:40 PM	2254.5	0.0	_			
1:19:00 PM	2256.1	0.0	<i>L</i> _(
1:19:20 PM	2094 1	1.8				
1:19:40 PM	1459.2	0.1				
1:20:00 PM	11717	0.0				
1:20:20 PM	1071.2	0.0				
1:20:40 PM	1039.1	0.0				
1:21:00 PM	1031.8	0.0				
1:21:20 PM	1037.0	0.0				
1:21:40 PM	1034.2	0.0				
1:22:00 PM	1033,3	0.0				
1:22:20 PM	1034.8	0.0				
1:22:40 PM	1033.0	0.0				
1:23:D0 PM	1034.5	0.0				
1:23:20 PM	1034.0	0.0				

Timestamp	(Kita 2/Train A) CO ppm	(Kiln 2/Train A) O2%
1:23:40 PM	1037.0	0.0 7
1:24:00 PM	986.3	2.4
1:24:20 PM	454.6	0.0
1;24;4 <u>0</u> PM	155.5	0.0
1.25:00 PM	51 3	0.0
1:25:20 PM	18,0	0.0
1:25:40 PM	7.9	e.b
1:26:00 PM	4.9	0.0
1:26:20 PM	3.4	0.0
1:26:40 PM	4.3	0.0
1:27:00 PM	0.9	0.0
1:27:20 PM	2.7	0.0
1:27:40 PM	3.4	0.0
1:28:00 PM	2.7	8.0
1:28:20 PM	755.0	1.6
1:28:40 PM	1587.0	0.0
1:29:00 PM	2008.3	0.0
1:29:20 PM	2179.1	0.0
1.29:40 PM	2236.2	0.0
1:30:00 PM	2252.1	0.0
1:30:20 PM	2257.0	0.0
1:30:40 PM	2256.4	0.0
f:31:00 PM	2256.7	0.0
1:31:20 PM	2261.9	0.0
1:31:40 PM	2258.2	0.0
1:32:00 PM	2259.4	0.0
1:32:20 PM	225 <u>5.8</u>	0.0
1.32:40 PM	1748 6	0.7
1:33:00 PM	571.4	0.0
1:33:20 PM	211.7	0.0
1:33;40 PM	70.9	0.0
1:34:00 PM	27.8	0.0
1:34:20 PM	11.6	
1:34:40 PM	4.6	0.0 0.0
1 35:00 PM	2.7	
1:35:20 PM		0:0 a.a
1:35:40 PM	2.1 4 o	6.0 0:0
	4.9 1.E	0.0
1:36:00 PM	1.5	0.0
1:36:20 PM	3.1	0.1
1:36:40 PM	118.2	1.3
1:37:00 PM	624.8	0.0
1:37:20 PM	892.8	0.0
1:37:40 PM	991.5	0.0
1:38:00 PM	1015.9	0.0
1:38:20 PM	1028.1	0.0
1:38:40 PM	1027.5	0.0
1:39:00 PM	1026.3	0.0
1:39:20 PM	1028.1	0.0
1:39:40 PM	1026.9	0.0

GeDAR Reports 9/21/2010 1:59 PM. Audit Data

Timestemp	(Kiln 2/Train A) CO opm	(Kiln 2/Train A) 02%
1:40:00 PM	1026.9	6.0
1:40:20 PM	1028.1	€.1
1:40:48 PM	1184.0	0.2
1:41:00 PM	1794.4	0.0
1:41:20 PM	2100.3	0.0
1:41:40 PM	2207.5	0.0
1:42:00 PM	2237. 7	0.0
1:42:20 PM	2251.8	0.9
1:42:40 PM	2253.9	0.0
1:43:00 PM	2251.5	0.0
1:43:20 PM	2251,2	0.1
1:43:40 PM	2252.1	0.0
1:44:00 PM	2256.1	0.1
1:44:20 PM	2252.7	0.1
1:44:40 PM	2252.1	0.0
1:45:00 PM	2252.1	0.0
Average	1163.1	.01
Minimum	-3.4	0.0
Maximum	2261.9	6.0

NORLITE, KILN 2B **CE FIELD DATA SUMMARY SEPTEMBER 21, 2010**

Analyzer: O2

Serial No.: F6-279

Range = 0 to 25

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	0.0	0.00	Constitution of	is tradely for the green
2 - MID	9.011	8.9		-0.11	
3 - HIGH	15.06	14.9	美国美国	# 11 	-0.16
4 - MID	9.011	8.9		-0.11	2000 P. 1000 P
5-LOW	0.0	0.0	0.00		
6 - HIGH	15.06	14.9		Park Burk	-0.16
7 - LOW	0.0	0.0	0.00		
8 - MID	9.011	8.8	11673336	-0.21	
9 - HIGH	15.06	14.9			-0.16
	MEAN	DIFFERENCE =	0.0	-0.1	-0.2
		ACCURACY =	0.0	-0.1	-0.2

Analyzer: CO

Serial No.: F6-187

Range = 0 to 200

RUN	AUDIT	MONITOR	L.	DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	1.1	1.1	\$45,000 (50,000)	n sego Galeriya di Pirtin
2 - MID	70.0	71.8		1.8	
3 - HIGH	149.5	151.9		70.33 di 3755-050	2.4
4 - MID	70.0	74.5		4.5	etereko keran:
5 - LOW	0.0	0.2	0.2		
6 - HIGH	149.5	152.2		game sureció	2.7
7 - LOW	0.0	0.8	0.8	使用表示的表示	7-18-31-18-11-18-1
8 - MID	70.0	73.6		3.6	
9 - HIGH	149.5	152.5		4.他是这些的	3.0
· · · · · · · · · · · · · · · · · · ·	MEAN I	DIFFERENCE =	0.7	3.3	2.7
		ACCURACY =	0.4	1.7	1,4

Analyzer: CO

Serial No.: F6-187

Range = 0 to 3000

RUN	AUDIT	MONITOR		DIFFERENCE	
NUMBER	VALUE	RESPONSE	LOW	MID	HIGH
1 - LOW	0.0	1.9	1.9	ero e sare	variation (
2 - MID	1058	1019.8	AL TO HER THE	-38.2	
3 - HIGH	2320.0	2220.6	1.1.1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2		-99.4
4 - MID	1058	1022.1		-35.9	23-3-23-3-3
5 - LOW	0.0	4.9	4.9	BOTH THE	4位940年
6 - HIGH	2320.0	2219.5			-100.5
7-LOW	0.0	1.3	1.3		(100.0 (SA) (SA) (SA) (SA)
8 - MID	1058.0	1017.4	2947230472	-40.6	Patak bayar
9 - HIGH	2320.0	2221.8			-98.2
	MEAN	DIFFERENCE =	2.7	-38.2	-99,4
		ACCURACY =	0.1	-1.3	-3.3

CEM Solutions Hudson, NY

Analyzer $CO = \le 5\%$ span / $O2 \le 0.5 O2$



Audit Data

Norlite Corporation

Data for 9/21/2010 2:02:20 PM thru 9/21/2010 2:37:40 PM from '2010-09-21 14.02.cea'

Timestamp	(Kiln 2/Tratn B) CO ppm	(Kiln 2/Trair B) O2%	1
2:02:20 PM	3.6	0.0	
2:02:40 PM	1.2	0.0	
2:03:00 PM	0.5	0.0	
2:03:20 PM	0.3	0.0	
2:03:40 PM	6.0	0.0	
2:04:00 PM	-0.1	0.0	
2:04:20 PM	0.5	a.o	
2:04:40 PM	1.0	0.0	
2:05:00 PM	1.3	9.0	
2:05:20 PM	1.3	0.0	
2:05:40 PM	1.1	0.0	. L
2:06:00 PM	19.2	7.8	
2:05:20 PM	55.7	8.9	
2:06:40 PM	68.0	8.8	
2:07:00 PM	70.9	8.9	
2:07:20 PM	71.9	8,9	
2:07:40 PM	72.0	8.9	
2:08:00 PM	71.9	8.8	
2:08:20 PM	71.2	8.9	
2:08:40 PM	71.8	8.9	
2:09:00 PM	71.7	8.9	
2:09:20 PM	71.8	8,9	
2:09:40 PM	72.4	8.9	
2:10:00 PM	72.0	8,9	•
2:10:20 PM	72.0	8.9	
2:10:40 PM	71.7	8.9	
2:11:00 PM	72.2	8.9	
2:11:20 PM	72.3	8.9	
2:11:40 PM	72.7	8.9	
2:12:00 PM	72.6	8.9	
2:12:20 PM	71.8	8.9	Λ
2:12:40 PM	104.8	14.7	M
2:13:00 PM	137.0	14.9	
2:13:20 PM	146.7	14,9	
2:13:40 PM	151.1	14.9	
2:14:00 PM	151.7	14.8	•
2:14:20 PM	151.3	14.9	
2:14:40 PM	151.8	14.9	
2:15:00 PM	151.5	f4.9 .	
2:15:20 PM	151.9	14.9	
2:15:40 PM	152.2	14.9	
2:16:00 PM	152.1	14.9	
2:16:20 PM	151.3	14.9	
2:16:40 PM	151.5	14.9	
2:17:00 PM	151.4	14.9.	

Timestamp	(Kiin 2/Train B) CO ppm	(Kiln 2/Trøin B) O2%	anna ann an ann an ann an an an an an an
2:17:20 PM	151.9	14.9	1-1
2:17:40 PM	129.2	9.3	, ,
2:18:00 PM	87.9	8.9	
2:18:20 PM	74.7	8.9	
2:18:40 PM	72.1	8.9	
2:19:00 PM	72.7	8.9	
2:19:20 PM	73.7	8.8	
2:19:40 PM	74.1	8.9	
2:20:00 PM	74.0	8.9	
2:20:20 PM	74,0	8.9	
2:20:40 PM	74.5	8.9	n-
2:21:00 PM	47.5	0.4	4 _ }
2:21:20 PM	13.7	0.0	
2:21:40 PM	3.6	0.0	
2:22:00 PM	1.0	0.0	
2:22:20 PM	-0.4	0.0	
2:22:40 PM	-0.5	0.0	
2:23:00 PM	0.0	0.0 0.0	
2:23:20 PM			
	0.4	0.0	
2:23:40 PM	0.2	0.0	
2:24:00 PM	7.5	6.3	
2:24:20 PM	97.3	14.8	
2:24:40 PM	136.5	14.9	
2:25:00 PM	148.5	14.9	
2:25:20 PM	151.1	14.9	
2:25:40 PM	152.3	14.9	
2:26:00 PM	152.3	14.9	
2:26:20 PM	152.6	14.9	
2:26:40 PM	151.7	14.9	
2:27:00 PM	151,2	14.9	
2:27:20 PM	151.4	14.9	
2:27:40 PM	152,2	14,9	1-1
2:28:00 PM	109.4	0.8	')
2:28:20 PM	33.1	0.1	
2:28:40 PM	8,5	0.0	
2:29:00 PM	2.4	0.0	
2:29:20 PM	1.3	0.0	
2:29:40 PM	0.2	0.0	
2:30:00 PM	-0.3	0,0	
2:30:20 PM	-0.4	0.0	
2:30:40 PM	-0.2	0,0	
2:31:00 PM	0.3	0.0	
2:31:20 PM	0.5	9.0	
2:31:40 PM	0.8	0.0	. 1
2:32:00 PM	8.0	5.0	٠ ــــــ
2:32:20 PM	41.6	8.7	
2:32:40 PM	63,9	8.8	
2:33:00 PM	69.9	8.8	
2:33:20 PM	72.6	8.8	

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Trair B) 02%
2:33:40 PM	73.9	8.8
2:34:00 PM	73.7	8.8
2:34:20 PM	73.6	8.8
2:34:40 PM	72.2	10.6
2:35:00 PM	106.7	14.8
2:36:20 PM	138.0	14.9
2:35:40 PM	148.3	14.9
2:36:00 PM	151.3	14.9
2:36:20 PM	151,1	14.9
2:36:40 PM	151.9	14.9
2:37:00 PM	152.7	14.9
2:37:20 PM	152.5	14.9
2:37:40 PM	144.3	14,4
Average	75.3	8.1
Minimum Maximum	-0.5 152.7	0.0 14,9

Audit Data

Norlite Corporation

Data for 9/21/2010 2:39:00 PM thru 9/21/2010 3:14:00 PM from '2010-09-21 14:38.cea'

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Train B) O2%	
2:39:00 PM	ř.6	0.0	
2:39:20 PM	1.3	0.0	
2:39:40 PM	-0.5	0.0	
2:40:00 PM	0.7	0.0	
2;40:20 PM	1.3	0.0	
2:40:40 PM	-0.5	0.0	
2:41:00 PM	1.9	<u> </u>	/
2:41:20 PM	83.2	1.2	No. June
2:41:40 PM	660.9	0.0	
2:42:00 PM	926.0	0.0	
2:42:20 PM	1000.5	0.0	
2:42:40 PM	1013.5	0.0	,
2:43:00 PM	1020.7	0.0	
2:43:20 PM	1015.9	0.0	
2:43:40 PM	1020.1	0.0	
2:44:00 PM	1020.1	0.0	
2:44:20 PM	1018.0	9.0	
2:44:40 PM	1019.8	0.0	h.
2:45:00 PM	1164.8	0.2	
2:45:20 PM	1849.6	0.0	
2:45:40 PM	2131.7	0.0	
2:46:00 PM	2206.1	0.0	·
2:46:20 PM	2216.8	0.0	
2:46:40 PM	2219.2	0.0	
2:47:00 PM	2221.5	0.0	
2:47:20 PM	2220.0	0.0	
2:47:40 PM	2221.8	0.0	
2:48:00 PM	2218.3	0.0	
2:48:20 PM	2220.9	0.0	
2:48:40 PM	2221.8	9.0	,
2:49:00 PM	2220.6	0.0	
2:49:20 PM	1838.0	0.4	- M
2:49:40 PM	1250.8	0.0	
2:50:00 PM	1070.8	0.0	
2:50:20 PM	1026.9	0.0	
2:50:40 PM	1019.2	0.0	
2:51:00 PM	1019.8	0.0	
2:51:20 PM	1022.1	0.0	
2:51:40 PM	1022.7	0.0	
2:52:00 PM	1018.3	0.0	·
2:52:20 PM	1020.4	0.0	
2:52:40 PM	1023.3	0.0	
2:53:00 PM	1023.3	0.0	
2:53:20 PM	1022.1	0.0	n.
2:53:40 PM	856.3	0.4	· 1 M

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Train B) O2%	
2:54:00 PM	277.1	0.0	
2:54:20 PM	68.6	0.0	
2:54:40 PM	18.2	0.0	
2:55:00 PM	6.3	0.0	
2:55:20 PM	5.7	0.0	•
2:55:40 PM	6.0	0.0	
2:56:00 PM	2.6	-0.1	
2:56:20 PM	1.9	0.0	
2:56:40 PM	4.3	0.0	
2:57:00 PM	5.1	0.0	
2:57:20 PM	4.9	0.0	<i>t</i>
2:57:40 PM	3.7	3.1	
2:58:00 PM	1234.6	0.0	
2:58:20 PM	1897.4	9.0	
2:58:40 PM	2145.6	0.0	
2:59:00 PM	2208.5	0.0	
2:59:20 PM	2220.3	0.0	
2:59:40 PM	2222.1	0.0	
3:00:00 PM	2223.9	0.0	
3:00:20 PM	2218.9	0.0	•
3:00:40 PM	2219.5	-0.1	H
3:01:00 PM	1087.1	0.3	
3:01:20 PM	437.0	0.0	
3:01:40 PM	115.8	-0.1	
3:02:00 PM	32.1	~0.1	
3:02:20 PM	11.7	0.0	
3:02:40 PM	7.8	0.0	
3:03:00 PM	3.7	0.0	
3:03:20 PM	3.1	0.0	
3:03:40 PM	4.3	-0.1	
3:04:00 PM	4.3	-0,1	
3:04:20 PM	3.1	0.0	
3:04:40 PM	4.0	-0.1	
3:05:00 PM	1.3	0.0	_/
3:05:20 PM	292.2	0.1	
3:05:40 PM	791.1	9.9	
3:06:00 PM	964.9	0.0	
3:06:20 PM	1002.9	0.0	
3:06:40 PM	1014.1	-0.1	
3:07:00 PM	1018.3	0.0	
3:07:20 PM	1017.4	0,0	
3:07:40 PM	1018.3	0.0	
3:00:00 PM	1014.7	0.0	
3:08:20 PM	1014.7	0.0	
3:08:40 PM	1018.6	0.0	
3:09:00 PM	1019.5	0,0	
3:09:20 PM	1015.3	0.0	•
3:09:40 PM	1017.4	0.1	\sim
3:10:00 PM	884.8	5.0	

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln. 2/Train 8) 62%	
3:10:20 PM	838.0	2.0	The state of the s
3:10:40 PM	1656.8	0.0	
3:11:00 PM	2075.9	0.0	
3:11:20 PM	2193.4	0.0	
3:11:40 PM	2219.5	0,0	
3:12:00 PM	2218.3	0,0	
3:12:20 PM	2217.7	0.0	
3:12:40 PM	2222.1	0.0	
3:13:00 PM	2217.7	0.0	•
3:13:20 PM	2218.0	6.0	4
3:13:40 PM	2221.8	0.0	_ H
3:14:00 PM	2201.1	7.0	- ' '
Average	1053.6	0.2	
Minimum	∙0.5	-0.1	
Maximum	2223.9	7.0	

PERFORMANCE SPECIFICATION TEST REPORT

Three Continuous Flow Rate Monitoring Systems Serving Kilns 1 and 2

Norlite Corporation Cohoes, New York

July 2010



Three Continuous Flow Rate Monitoring Systems Serving Kilns 1 and 2

Prepared for:

Norlite Corporation Cohoes, New York

BRIAN GARRETT, SENIOR TECHNICIAN O'Brien & Gere Engineers, Inc.

DAVID OSTASZEWSKI, P.E., SENIOR MANAGING ENGINEER
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- 2 Relative Accuracy Flow Rate Meter (Serial No. 244110A)
- 3 Relative Accuracy Flow Rate Meter (Serial No. 246163)

LIST OF APPENDICES

- A Facility FRMS Data
- B Schematic of Test Location
- C Equipment Calibration Data
- D Field Data and Calculations



1. INTRODUCTION AND BACKGROUND

O'Brien & Gere was retained by Norlite Corporation to conduct relative accuracy test audits (RATAs) on two primary and one back-up flow rate monitoring system (FRMS) serving the Kiln 1 and 2 exhausts at the Norlite facility located in Cohoes, New York. The objective of the test program was to evaluate the performance of each FRMS with respect to criteria outlined in 40 CFR Part 60, Appendix B, Performance Specification (PS) 6.

Thomas VanVranken of Norlite was present to coordinate facility process operations with the testing program. There were no representatives of the regulatory agencies present to witness the field testing.

The remaining sections of this report include a summary of the scope of work conducted, facility description, sampling methods used, and RATA test results.

1.1 EMISSIONS TESTING PROGRAM PARTICIPANTS

Facility

Name:

Norlite Corporation

Site Address:

628 Saratoga Street

Cohoes, New York 12047

Contact:

Thomas VanVranken

Telephone number:

(518) 235-0401

Certification Testing Company

Name:

O'Brien & Gere Engineers, Inc.

Address:

5000 Brittonfield Parkway

East Syracuse, New York

13057

Contact:

Dave Ostaszewski, P.E.

Telephone number:

(315) 437-6100

2. FACILITY DESCRIPTION

This section provides a general description of the facility and the kiln exhaust FRMS.

2.1 PROCESS DESCRIPTION

The Norlite facility in Cohoes, New York produces an expanded shale aggregate in two rotary dry kilns. Raw materials are quarried on-site, sized, and transported to each kiln via trucks and a conveyor system. The shale is proportioned and stored in a silo or fed directly to each kiln. The raw product is introduced to each kiln at the feedback end from the silo, while fuels are fed from the opposite end. Calcination of the product occurs at a temperature of 1700 °F to 2000 °F. The shale is then heated until it is in a semi plastic state to expand internal gases. Draft for each kiln is supplied by individual Barrons 400 hp induced draft fans each rated at 5,300 acfm at 450 °F. The resulting clinker is then transformed from each rotary kiln to individual Fuller Corp. Model 622H forced draft clinker coolers.

Exhaust gases from each cooling clinker are passed through individual Barrons Corp. 2 stage multiple cyclones. Dust is removed from the airstream by

centrifugation. Recovered dust is returned to the clinker outfeed from the kiln. Secondary combustion air to the kiln is supplied by forced draft clinker cooler fans rated at a total of 25,000 acfm. The secondary combustion air is pre heated by each clinker cooler at the front end of each kiln. The remaining exhaust gases from each clinker cooler are discharged to atmosphere through individual two stage multicyclones and then through individual 45-inch inside diameter (ID) stacks. The rotary kilns are each exhausted to individual baghouses and then to caustic scrubbers prior to discharge to atmosphere through individual 48-inch ID fiberglass stacks.

2.2 FLOW RATE MONITOR DESCRIPTION

The volumetric flow rate of the kiln exhausts is monitored using Fluid Components International Model GF90 gas flow meters. These instruments are installed at the lower sampling platform on each kiln exhaust. The FRMS are calibrated and audited in accordance with Part 60, Appendix B, PS 6 and Appendix F procedures. The FRMS output to the kiln data acquisition system (DAS) which reports flow data in units of standard cubic feet per minute (scfm).



3. SUMMARY OF TEST PROGRAM

This section provides a summary of the scope of work conducted. Test methods used can be found in Section 4 of this report.

3.1 SCOPE OF WORK SUMMARY

O'Brien & Gere conducted relative accuracy test audits (RATAs) on two primary and one back-up FRMS serving the kiln exhausts at the Norlite Corporation facility located in Cohoes, New York. Testing of the FRMS units was conducted on May 11 through 13, 2010. Each RATA consisted of nine, 21-minute test runs. Testing was conducted during normal process operating conditions while the process was operating at greater than 50 percent of rated capacity. Relative accuracy (RA) for each FRMS was evaluated in units of scfm.

Facility FRMS data coinciding with the RM test runs is presented in Appendix A of this report.



4. SAMPLING AND ANALYTICAL PROCEDURES

This section provides a description of the test methods that were utilized as part of the testing program.

4.1 REFERENCE TEST METHODS

The RATA testing was conducted using USEPA Reference Methods (RMs) outlined below and as described in Title 40 CFR Part 60, Appendix A.

- RM 1: Sample and velocity traverses for stationary sources
- RM 2: Determination of stack gas velocity and volumetric flow rate (S-type pitot tube)
- RM 3: Gas analysis for the determination of dry molecular weight
- RM 4: Determination of moisture content in stack gases

4.2 TEST PORT LOCATIONS

Test ports in each 48-inch inside diameter (ID) kiln exhaust stack are located approximately 33 feet downstream of the ID fan and approximately 35 feet upstream of the stack exhaust. Velocity measurements were performed at 12 traverse points for each volumetric flow test in accordance with USEPA RM 1 requirements. A sketch of the stack configurations and sample locations can be found in Appendix B.

4.3 VOLUMETRIC FLOW RATE

The volumetric flow rate of the kiln exhausts was determined in accordance with USEPA RMs 1 through

4. The gas velocity was determined from velocity pressure data measured using a stainless steel Type-S pitot tube and manometer across the diameter of the stacks. As part of this test, the air stream temperatures were monitored using a thermocouple attached to the pitot tube. Velocity and temperature traverses were taken across the stacks in two directions, each oriented 90° apart in the same plane. USEPA RMs 1 and 2 were followed to establish the equal areas to be measured in identifying the gas velocity and volumetric flow rate.

Oxygen and carbon dioxide concentration data were obtained in accordance with USEPA RM 3 using a Fyrite apparatus. One Fyrite grab sample was collected at a single point in the stack during each moisture test run. A single 60-minute moisture test run encompassed three 21-minute RATA test runs. Samples were collected at a single point in the exhaust stack using an unheated sample probe.

4.4 QUALITY ASSURANCE/QUALITY CONTROL

All reference method test equipment was calibrated before, during, or following use in the field. The dry gas meter/orifice module was calibrated before and following completion of the test program. Temperature read-outs are calibrated upon receipt, immediately following damage or repair, and during field use, as applicable. A post test check of the stack gas thermocouple was also conducted. Copies of the equipment calibration data can be found in Appendix C.



5. FRMS CERTIFICATION RESULTS

A brief discussion of the FRMS certification results is presented below. A tabular summary of all test results can be found in Tables 1, 2 and 3. Supporting field data and calculations can be found in Appendix D.

5.1 FRMS SERIAL NO. 281147 RESULTS

Table 1 summarizes the results of the certification testing conducted on the Serial No. 281147 FRMS. A review of Table 1 indicates that the reference method flow results averaged approximately 36651 scfm. The Serial No. 281147 FRMS results averaged approximately 38419 scfm resulting in an absolute difference and confidence coefficient (cc) of approximately -1768.4 and 174.5 scfm, respectively. The FRMS RA was 5.3 percent, within the Part 60, PS 6 limit of 20 percent.

5.2 FRMS SERIAL NO. 244110A RESULTS

The results of the FRMS Serial No. 244110A certification testing can be found in Table 2. A review

of Table 2 indicates that the reference method flow results averaged approximately 36217 scfm. The Serial No. 244110A FRMS results averaged approximately 36608 scfm resulting in an absolute difference and cc of approximately -391.2 and 157.9 scfm, respectively. The FRMS RA was 1.5 percent, within the Part 60, PS 6 limit of 20 percent.

5.3 FRMS SERIAL NO. 246163 RESULTS

The results of the FRMS Serial No. 246163 certification testing can be found in Table 4. A review of Table 4 indicates that the reference method flow results averaged approximately 33628 scfm. The Serial No. 246163 FRMS results averaged approximately 39515 scfm resulting in an absolute difference and cc of approximately -5887.1 and 213.6 scfm, respectively. The FRMS RA was 18.1 percent, within the Part 60, PS 6 limit of 20 percent.



Tables 1 - 3

Table 1
Relative Accuracy - Flow Rate Meter (Serial No. 281147)
Norlite Corporation

Kiln 2 Cohoes, NY

			Reference Method	Facility CEMS	
Run ID	Date	Time	Data (scfm)	Data (scfm)	Difference
Run 1	05/13/10	0928-0948	35984	37424	-1439.8
Run 2	05/13/10	0948-1008	36147	37700	-1553.0
Run 3	05/13/10	1008-1028	36127	38051	-1923.5
Run 4	05/13/10	1036-1056	36845	38525	-1679.8
Run 5	05/13/10	1056-1116	37247	38729	-1482.1
Run 6	05/13/10	1116-1136	36876	38761	-1885.4
Run 7	05/13/10	1147-1207	37052	38972	-1919.9
Run 8	. 05/13/10	1207-1227	36797	38793	-1996.4
Run 9	05/13/10	1227-1247	36783	38819	-203.6.2
		;			
•		Average:	36651	38419	-1768.4
	Emission Stan	dard (ES)	NA Ro	elative Accuracy (% of RM)	5.3
	Standard Dev	iation (Sd)	231.5 Re	elative Accuracy (% of ES)	NA
	Confidence C	oefficient (CC)	174.5		



Table 2
Relative Accuracy - Flow Rate Meter (Serial No. 244110A)
Norlite Corporation

Kiln 1 Cohoes, NY

			Reference Meth	od Facility CEMS	
Run ID	Date	Time	Data (scfm)	Data (scfm)	Difference
Run 1	05/11/10	1329-1349	36459	37000	-540.9
Run 2	05/11/10	1349-1409	36259	36329	-69.5
Run 3	05/11/10	1409-1429	36023	36379	-356,1
Run 4	05/11/10	1439-1459	35973	36372	-399.5
Run 5	05/11/10	1459-1519	35895	36583	-688.5
Run 6	05/11/10	1519-1539	36038	36456	-418.2
Run 7	05/11/10	1547-1607	36117	36609	-492.5
Run 8	05/11/10	1607-1627	36492	36811	-318.7
Run 9	05/11/10	1627-1647	36370	36934	-563.6
		Average:	36181	36608	-427.5
	Emission Stan	dard (ES)	NA	Relative Accuracy (% of RM)	1.5
	Standard Deviation (Sd)		176.7	Relative Accuracy (% of ES)	NA
	Confidence Co	pefficient (CC)	133.2		



Table 3

Relative Accuracy - Flow Rate Meter (Serial No. 246163)

Norlite Corporation

Kiln 2 Cohoes, NY

			Reference Method	l Facility CEMS	
Run ID	Date	Time	Data (scfm)	Data (scfm)	Difference
Run 1	05/12/10	1642-1702	34298	39792	-5493.5
Run 2	05/12/10	1702-1722	33125	39188	-6063.1
Run 3	05/12/10	1722-1742	33015	38904	-5889.3
Run 4	05/12/10	1708-1729	33401	39058	-5656.9
Run 5	05/12/10	1729-1750	33335	39260	-5924.9
Run 6	05/12/10	1757-1818	33824	39486	-5661.8
Run 7	05/12/10	1818-1839	33890	39783	-5893.0
Run 8	05/12/10	1839-1900	33948	.39871	-5923.1
Run 9	05/12/10	1904-1925	33812	40290	-6478.3
		Average:	33628	39515	-5887.1
	Emission Stan	dard (ES)	NA R	elative Accuracy (% of RM)	18.1
	Standard Dev	iation (Sd)	283.3 R	elative Accuracy (% of ES)	NA
	Confidence Co	oefficient (CC)	213.6		



Facility FRMS Data

Kiln 1	Passed
timestamp	K1_FT_5555_MRA_VAL0
5/11/2010 13:29:00	38558
5/11/2010 13:30:00	38411
5/11/2010 13:31:00	38159
5/11/2010 13:32:00	37508
5/11/2010 13:33:00	37088
5/11/2010 13:34:00	37235
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5/11/2010 13:36:00	37151
5/11/2010 13:37:00	36962
5/11/2010 13:38:00	36962
5/11/2010 13:39:00	36458
5/11/2010 13:40:00 5/11/2010 13:41:00	36542
5/11/2010 13:41:00	36290
5/11/2010 13:42:00	36227
5/11/2010 13:44:00	36185 36395
5/11/2010 13:44:00	36626
5/11/2010 13:46:00	36773
5/11/2010 13:47:00	36584
5/11/2010 13:48:00	36437
5/11/2010 13:49:00	36626
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	01000
	·
5/11/2010 13:50:00	36374
5/11/2010 13:51:00	36017
5/11/2010 13:52:00	36185
5/11/2010 13:53:00	36290
5/11/2010 13:54:00	36122
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5/11/2010 13:59:00	36080
5/11/2010 13:39:00	36164 35828
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5/11/2010 14:01:00	35828
5/11/2010 14:03:00	36521
5/11/2010 14:04:00	36416
5/11/2010 14:05:00	37088
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5/11/2010 14:07:00	36584
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	36329
	,

5/11/2010 14:10:00	36458
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5/11/2010 14:14:00	36248
5/11/2010 14:15:00	36101
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5/11/2010 14:19:00	35954
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5/11/2010 14:22:00	36605
5/11/2010 14:23:00	36479
5/11/2010 14:24:00	36122
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5/11/2010 14:58:00	36605
5/11/2010 14:59:00	36143
	36372

5/11/2010 15:00:00	36710
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5/11/2010 15:03:00	36332
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5/11/2010 15:11:00	36479
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5/11/2010 15:13:00	36878
5/11/2010 15:14:00	36605
5/11/2010 15:15:00	36647
5/11/2010 15:16:00	36353
5/11/2010 15:17:00	36857
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5/11/2010 15:35:00	36773
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5/11/2010 15:39:00	36794
	36456

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5/11/2010 15:55:00	36227
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	36609
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5/11/2010 16:10:00	36332
5/11/2010 16:11:00	36794
5/11/2010 16:12:00	36668
5/11/2010 16:13:00	35849
5/11/2010 16:14:00	37319
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5/11/2010 16:19:00	37004
5/11/2010 16:20:00	36962
5/11/2010 16:21:00	. 36794
5/11/2010 16:22:00	36878
5/11/2010 16:23:00	37361
5/11/2010 16:23:00	36983
5/11/2010 16:24:00	36962
5/11/2010 16:26:00	
5/11/2010 16:26:00 5/11/2010 16:27:00	36920 36878
9/11/2010/19:2 <i>/</i> 100	
	36811

5/11/2010 16:28:00	37025
5/11/2010 16:29:00	37004
5/11/2010 16:30:00	36710
5/11/2010 16:31:00	36962
5/11/2010 16:32:00	37256
5/11/2010 16:33:00	37151
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5/11/2010 16:35:00	36731
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5/11/2010 16:40:00	37046
5/11/2010 16:41:00	36962
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5/11/2010 16:44:00	36752
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5/11/2010 16:47:00	37046
	36934

246163

246163

K2	Passed
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5/12/2010 15:48:00	40028
5/12/2010 15:49:00	39545
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5/12/2010 15:51:00	39923
5/12/2010 15:52:00	40070
5/12/2010 15:53:00	40322
5/12/2010 15:54:00	39776
5/12/2010 15:55:00	39650
5/12/2010 15:56:00	39860
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5/12/2010 15:58:00	39692
5/12/2010 15:59:00	39524
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5/12/2010 16:10:00	39398
5/12/2010 16:11:00	39272
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5/12/2010 16:12:00	39545
5/12/2010 16:14:00	39356
5/12/2010 16:15:00	39314
5/12/2010 16:16:00	39020
5/12/2010 16:17:00	39041
5/12/2010 16:18:00	38663
5/12/2010 16:19:00	38684
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5/12/2010 16:21:00	39272
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	39188

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5/12/2010 16:26:00	38432
5/12/2010 16:27:00	38537
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5/12/2010 16:32:00	38138
5/12/2010 16:33:00	38894
5/12/2010 16:34:00	39020
5/12/2010 16:35:00	39062
5/12/2010 16:36:00	39062
5/12/2010 16:37:00	38054
5/12/2010 16:38:00	38453
5/12/2010 16:39:00	39062
5/12/2010 16:40:00	39188
5/12/2010 16:41:00 5/12/2010 16:42:00	39146
5/12/2010 16:42:00	39062
	38904
5/12/2010 16:52:00	38810
5/12/2010 16:53:00	39020
5/12/2010 16:54:00	39020
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5/12/2010 16:56:00	39419
5/12/2010 16:57:00	39188
5/12/2010 16:58:00	39083
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5/12/2010 17:00:00	38558
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5/12/2010 17:08:00	39230
5/12/2010 17:09:00	39167
5/12/2010 17:10:00	39230
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	39058
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5/12/2010 17:17:00	39482
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5/12/2010 17:19:00	38558
5/12/2010 17:20:00	39020
5/12/2010 17:21:00	39419
5/12/2010 17:22:00	39524
5/12/2010 17:23:00	39650
5/12/2010 17:24:00	38684
5/12/2010 17:25:00	38789
5/12/2010 17:26:00	39314
5/12/2010 17:27:00	39692
5/12/2010 17:28:00	39629
5/12/2010 17:29:00	39545
5/12/2010 17:30:00	38642
5/12/2010 17:31:00	38894
5/12/2010 17:32:00	39629
	39260
	'
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5/12/2010 17:34:00	39713
5/12/2010 17:35:00	39104
5/12/2010 17:36:00	39125
5/12/2010 17:37:00	39671
5/12/2010 17:38:00	39797
5/12/2010 17:39:00	39776
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5/12/2010 17:44:00	39650
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5/12/2010 17:46:00	39692
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5/12/2010 17:49:00	39062
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5/12/2010 17:52:00	39293
	39486

281147

	_

Passed

timestamp	K2_FT_5555_MRA_VAL0
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5/13/2010 9:31:00	37676
5/13/2010 9:32:00	37382
5/13/2010 9:33:00	37466
5/13/2010 9:34:00	37298
5/13/2010 9:35:00	37193
5/13/2010 9:36:00	37781
5/13/2010 9:37:00	37592
5/13/2010 9:38:00	37403
5/13/2010 9:39:00	37550
5/13/2010 9:40:00	37361
5/13/2010 9:41:00	37277
5/13/2010 9:42:00	37277
5/13/2010 9:43:00	37676
5/13/2010 9:44:00	37466
5/13/2010 9:45:00	37235
5/13/2010 9:46:00	37298
5/13/2010 9:47:00	37256
5/13/2010 9:48:00	37319
	37424
5/13/2010 9:49:00	37718
5/13/2010 9:50:00	37172
5/13/2010 9:51:00	37466
5/13/2010 9:52:00	37550
5/13/2010 9:53:00	37025
5/13/2010 9:54:00	37466
5/13/2010 9:55:00	37865
5/13/2010 9:56:00	37634
5/13/2010 9:57:00	37529
5/13/2010 9:58:00	37718
5/13/2010 9:59:00	37844
5/13/2010 10:00:00	37802
5/13/2010 10:01:00	37718
5/13/2010 10:02:00	37928
5/13/2010 10:03:00	37655
5/13/2010 10:04:00	37865
5/13/2010 10:05:00	38264
5/13/2010 10:06:00	37949
5/13/2010 10:07:00	38117
5/13/2010 10:08:00	37718
	37700

5/13/2010 10:09:00	37676
5/13/2010 10:10:00	38033
5/13/2010 10:11:00	38327
5/13/2010 10:12:00	38075
5/13/2010 10:13:00	37928
5/13/2010 10:14:00	37991
5/13/2010 10:15:00	37928
5/13/2010 10:16:00	37949
5/13/2010 10:17:00	37928
5/13/2010 10:18:00	37991
5/13/2010 10:19:00	38054
5/13/2010 10:20:00	37802
5/13/2010 10:21:00	38117
5/13/2010 10:22:00	38243
5/13/2010 10:23:00	38033
5/13/2010 10:24:00	37970
5/13/2010 10:25:00	38012
5/13/2010 10:26:00	38096
5/13/2010 10:27:00	38474
5/13/2010 10:28:00	38390
	38051
5/13/2010 10:36	38747
5/13/2010 10:37	38684
5/13/2010 10:38	38369
5/13/2010 10:39	38453
5/13/2010 10:40	38222
5/13/2010 10:41	38306
5/13/2010 10:42	38663
5/13/2010 10:43	38684
5/13/2010 10:44	38348
5/13/2010 10:45	38348
5/13/2010 10:46	38201
5/13/2010 10:47	38495
5/13/2010 10:48	38873
5/13/2010 10:49	38684
5/13/2010 10:50	38306
5/13/2010 10:51	38369
5/13/2010 10:52	38705
5/13/2010 10:53	38768
5/13/2010 10:54	38516
5/13/2010 10:55	38768
5/13/2010 10:56	38516
	38525

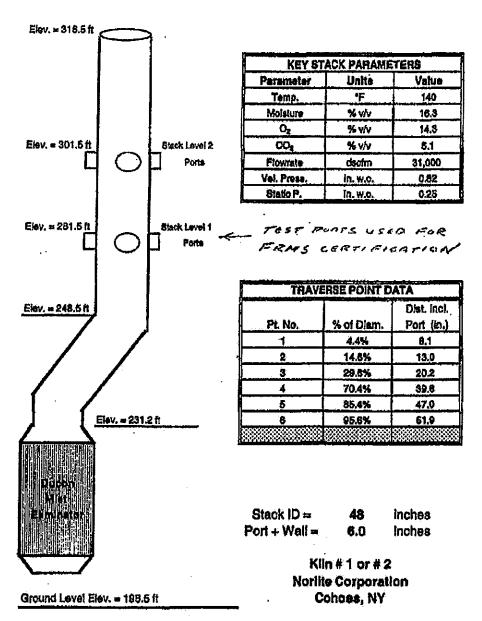
5/13/2010 10:57	38894
5/13/2010 10:58	38768
5/13/2010 10:59	38747
5/13/2010 11:00	38726
5/13/2010 11:01	38936
5/13/2010 11:02	38663
5/13/2010 11:03	38621
5/13/2010 11:04	38642
5/13/2010 11:05	38810
5/13/2010 11:06	38915
5/13/2010 11:07	38621
5/13/2010 11:08	38810
5/13/2010 11:09	38747
5/13/2010 11:10	38894
5/13/2010 11:11	38684
5/13/2010 11:12	38516
5/13/2010 11:13	38453
5/13/2010 11:14	38495
5/13/2010 11:15	38684
5/13/2010 11:16	38957
	38729
5/13/2010 11:17	38831
5/13/2010 11:18	38768
5/13/2010 11:19	38810
5/13/2010 11:20	38684
5/13/2010 11:21	38747
5/13/2010 11:22	38558
5/13/2010 11:23	38705
5/13/2010 11:24	38894
5/13/2010 11:25	39062
5/13/2010 11:26	38978
5/13/2010 11:27	38600
5/13/2010 11:28	38516
5/13/2010 11:29	38726
5/13/2010 11:30	38642
5/13/2010 11:31	38621
5/13/2010 11:32	38642
5/13/2010 11:33	38600
5/13/2010 11:34	38978
5/13/2010 11:35	39167
5/13/2010 11:36	38684
	38761

5/13/2010 11:47	38936
5/13/2010 11:48	38873
5/13/2010 11:49	39146
5/13/2010 11:50	38684
5/13/2010 11:51	39062
5/13/2010 11:52	39272
5/13/2010 11:53	39272
5/13/2010 11:54	39146
5/13/2010 11:55	38684
5/13/2010 11:56	38894
5/13/2010 11:57	39020
5/13/2010 11:58	38999
5/13/2010 11:59	38978
5/13/2010 12:00	38915
5/13/2010 12:01	38810
5/13/2010 12:02	38789
5/13/2010 12:03	39020
5/13/2010 12:04	38852
5/13/2010 12:05	38726
5/13/2010 12:06	39041
5/13/2010 12:07	39293
	38972
5/13/2010 12:08	39377
5/13/2010 12:09	39020
5/13/2010 12:10	38600
5/13/2010 12:11	38747
5/13/2010 12:12	38852
5/13/2010 12:13	38852
5/13/2010 12:14	39062
5/13/2010 12:15	38873
5/13/2010 12:16	38348
5/13/2010 12:17	38600
5/13/2010 12:18	38936
5/13/2010 12:19	38957
5/13/2010 12:20	38621
5/13/2010 12:21	38474
5/13/2010 12:22	38642
5/13/2010 12:23	38642
5/13/2010 12:24	38726
5/13/2010 12:25	38579
5/13/2010 12:26	38894
5/13/2010 12:27	39062
	38793

5/13/2010 12:28	38768
5/13/2010 12:29	38747
5/13/2010 12:30	38852
5/13/2010 12:31	38957
5/13/2010 12:32	39041
5/13/2010 12:33	38978
5/13/2010 12:34	38894
5/13/2010 12:35	38789
5/13/2010 12:36	38831
5/13/2010 12:37	38894
5/13/2010 12:38	38852
5/13/2010 12:39	38852
5/13/2010 12:40	38621
5/13/2010 12:41	38957
5/13/2010 12:42	39020
5/13/2010 12:43	38663
5/13/2010 12:44	38432
5/13/2010 12:45	38684
5/13/2010 12:46	38726
5/13/2010 12:47	38810
· .	38819

Schematic of Test Location

Figure 3-1 Kiin 1 and Kiin 2 Traverse Point Data



The state of the s

Equipment Calibration Data

METHOD 5 DRY GAS METER CALIBRATION USING CRITICAL ORIFICES



- 1) Select three critical orifices to calibrate the dry gas meter which bracket the expected operating range.
- 2) Record barometric pressure before and after calibration procedure.
- Run at tested vacuum (from Orifice Calibration Report), for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
- 4) Record data and information in the GREEN cells, YELLOW cells are calculated.

			1									.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		CALC (L PR)						
	DATE:	6/24/2010		MET	TER SERIAL #	MB1	BAROMETRIC PRESSURE (In Hg): 29.28 29.04 29.15													
METER	PART#	L	CRITI	CAL ORIFICE S	SET SERIAL#	1393														
			 																	
		K ^a	TESTED				<u> </u>	TE	MPERA	TURES	<u>'F</u>		ELAPSED					Y % Diff	Y % Diff	
	···	1	VACUUM		M READINGS		AMBIENT			DGM O		DGM	TIME (MIN)	DCM VH	(1)	(2)	(3)	to	with other	<u> </u>
ORIFICE #	RUN#	(AVG)	(in Hg)	INITIAL	FINAL	NET (Vm)		INITIAL	FINAL	INITIAL	FINAL	AVG	0	(In H ₂ O)	V _m (STD)	V _{tr} (STD)	Y	Average Y	ortfices	ΔH _G
	4	0,308			T	1														
11.	2			450.000		.0						0								
	.3	0.306	23	353,878	359.894	6.016	76	81	81	77	_ 77	79	15.00	0.43	5,7488	5,7809	1.006			1.56
		0.306			I	.0		L	<u></u>			D,				AVG =	1,006	4.04		
	4	0.4268		·	1	ه. [a				AVG -	1,440	-1,94	-0,39	
16	2	0,4268	22	345.536	353.878	8.342	76	80	80	77	77	79.5	15.00	0.85	T 6076	0.0000	4.844			
	3	0,4268				.0				''		0	10.00	0.63	7.9873	<u>8,0630</u>	<u>1,009</u>			<u>1,58</u>
					<u> </u>											AVG =	1,009	-1.56	0.39	
	1	0.4961				.0						0								
18	-2	0.4961	19	336.024	345.536	9.512	76	79	80	76	77	7B	15.00	1.2	9,1241	9.3722	1.027		•	1.66
	3	0.4961			l. <u>.</u>	.0						0				222,654				1.00
						- 1			,			i I				AVG =	1.027	0.16	1.76	
	1	0.7131				.0	<u> </u>					0								
26	2	0.7131	19	321.60	335.914	14,314	76	78	81	75	76	77.5	16.00	2.4	13.7845	14.3699	1.042			1.61
	3	0.7131		L	<u> </u>	٥. [<u> </u>				ď								
	ı		T		7	1		_				1				AVG ≃	1,042	1.65	1,49	
31	1	0,8358				٥.						0								
ા	2	0.8358	7.5	275.248	290.948	15.699	76	78	83	75	76	78	15.00	3.4	15.1416	15,7898	1,043			1.66
<u> </u>	3	0,8358	<u> </u>		<u> </u>	0.	<u> </u>	<u></u>			L	a								
USINGTH	E CRITIC	AL ORIFICES	S AS CAUBRATI	ONSTANDARDS	:											AVG =	1.043	1.69	1.52	

INITIAL

FINAL

AVG (Ppp)

The following equations are used to calculate the standard volumes of air passed through the DGM, V_n (std), and the critical orifice, V_{cr} (std), and the DGM calibration factor, V_r . These equations are automatically calculated in the preadsheet above.

AVERAGE DRY GAS METER CALIBRATION FACTOR, Y = 1.026

AVERAGE AHe = 1.62

(1)
$$Vm_{(nd)} = K_1 *Vm * \frac{Pbar + (\Delta H/13.6)}{Tm}$$

Net volume of gas sample passed through DGM, corrected to standard conditions
 K₁ = 17.64 °R/in. Hg (English), 0.3858 °K/mm Hg (Metric)
 T_n = Absolute DGM avg. temperature (°R - English, °K - Metric)

$$\Delta H_{ex} = \left(\frac{0.75 \text{ g}}{V_{ex}(\text{std})}\right)^2 \Delta H \left(\frac{V_{ex}(\text{std})}{V_{ex}}\right)^2$$

(2)
$$Vcr_{(ac)} = K * \frac{Pbar * \Theta}{\sqrt{Tamb}}$$

= Volume of gas sample passed through the critical orifice, corrected to standard conditions

T_{amb} = Absolute ambient temperature (*R - English, *K - Metric)

K = Average K factor from Critical Orifice Calibration

$$Y = \frac{V_{C}r_{(std)}}{Vm_{(std)}}$$

DGM calibration factor

MB1 06-24-10.xisx

Norlite, LLC Cohoes, New York

POST TEST DRY GAS METER CALIBRATION

TECH	DATE:		c	RITICAL		ETER BOX #: ET SERIAL #:		INITIAL BAROMETRIC PRESSURE (in Hg): 29.3						FINAL 29,3	AVG (P _{bw}) 29.3					
ORIFICE#	RUN#	K' FACTOR (AVG)	TESTED VACUUM (in Hg)		DGN INITIAL	I READINGS	(FT ³)	AMBIENT	DGMIN	LET	TURES 'F DGM OUTLE INITIAL FINA	1		ELAPSED TIME (MIN)	DGM ∆H (in H₂O)	(1) V _m (STD)	(Ž) V _{er} (STD)	(3) Y		-
18	1 2 3 4 2 3 1	0.4961 0.4961 0.4961 0.4961 0.4961 0.4961	21 21 21 21 21 21 22		240.372 249.818 230.894	249.818 259.292 240.372	9.446 9.474 9.478	74 74 74	76 77 76	77 78 76	74 75 74 75 74 75	76		15.00 15.00 15.00	1.2	9.1498 9.1584 9.1851	AVG = 9,4381 9,4381 9,4381 AVG =	1.032 1.029 1.028 1.029	<u>0.00</u>	<u>1,65</u> 1,65 1,65
-	3						 O.					0 0					AVG ≖	····		7

AVERAGE DRY GAS METER CALIBRATION FACTOR, Y = 1.029

PRE-DETERMINED DRY GAS METER CALIBRATION FACTOR, Y = 1.083

PERCENT DIFFERENCE = -4.9



Initial Impinger Outlet Thermocouple Calibration

	distr.		ice Bath		948 528.		Ambient		and a second	Н	ot Water Bath		Tikkiibii	1	
ID Number		(i emperature (*Rk)	Thermocouple Temperature (°Rk	Deviation*		Reference Temperature (°Rk	Thermocouple Temperature (°Rk	Deviation		Reference Temperature (°Rk	ot Water Bath Thermocouple Temperature (°Rk	Deviation*		Technician	Date Performed
IO-1		493	492	-0.2%		526	526	0.0%		672	870	-0.3%	N PATES		01/12/10
10-2		493	492	-0.2%		526	526	0.0%		672	670	-0.3%		MAS	01/12/10
10-3		493	493	0.0%		526	527	0.2%		672	670	-0.3%		MAS	01/12/10
10-4		493	492	-0.2%		526	528	0.4%		672	670			MAS	01/12/10
IO-5		493	492	-0.2%		526	526	0.0%		672	670	-0.3%		MAS	01/12/10
IO-6		493	493	0.0%		526	527	0.2%		672	670			MAS	01/12/10
IO-8		493	493	0.0%		526	527	0.2%		672	670	-0.3%		MAS	01/12/10
IO-10		493	492	-0.2%		526	526	0.0%		672	670	-0.3%		MAS	01/12/10
	Ser.				90.00		**								
ļ															
	100														
													100		
	10													-	
													101		
									1886				d Artic		
								·							
					等										

Reference Thermocouple: Fluke S/N: 83450033 or S/N 90460057 traceable to the Untied States National Institute of Standards and Technology *Acceptable Deviation: 1.5%



Initial Meterbox Thermocouple Calibration

			Ice Bath				Ambient		in the same	н	ot Water Bath	lesisso:	SECOLUS			
ID Number		Reference	Thermocouple	Deviation*		Reference	Thermocouple	Deviation*		Reference	Thermocouple		5	Date		
i			Temperature (°R)	1001100011		Temperature (°R)	Temperature (°R)	Devianon		Temperature (°R)	Temperature (°R)	Deviation* 開始	Technician	Performed		
					NAME OF	Pasi in Historia		Mineral Colonia			and administration of the second	alie stronalie des				
MB1 Inlet		492	493	0.2%		532	532	0.0%		672	674	0.3%	JLS	08/25/03		
MB1 Outlet		492	492	0.0%		532	530	-0.4%		672	673	0.1%	JLS	08/25/03		
MB2 inlet		492	493			the old relationship the second								ST TO A STATE OF		
MB2 Outlet		492	492	0.2% 0.0%		531 531	532 532	0.2%		672	671	-0.1%	EMA_	06/16/03		
MB2 Oddet		492	492 Vechoning Hornorie	U.U%		531		0.2%		672	672	0.0%	EMA	06/16/03		
MB3 Inlet		492	493	0.2%		532	533	0.2%		672	the state of the s					
MB3 Outlet		492	492	0.0%		532	532	0.0%		672	673 671	0.1%	EMA _	06/19/03		
n esta per primario		ses des beste quales								HARM SHARMS CONTROL	671	-0.1%	EMA	06/19/03		
MB4 Inlet		492	491	-0.2%		532	532	0.0%		672	670	-0.3%	JLS	08/25/03		
MB4 Outlet		492	492	0.0%		532	531	-0.2%		672	671	-0.1%	JLS	08/25/03		
				edia tora						v zamen kara kara		7	3000000	00/20/03 20/20/08/0		
MB5 Inlet		492	493	0.2%		528	533	0.9%		672	671	-0.1%	JLS	04/27/04		
MB5 Outlet		492	493	0.2%		528	533	0.9%		672	671	-0.1%	JLS	04/27/04		
				HARLIO HILL		经过多数 医甲基基氏 医	2011年 1211年 1211年 1211年									
MB6 Inlet	Me by	492	494	0.4%		532	533	0.2%	ijψ.	672	670	-0.3%	JLS	09/17/04		
MB6 Outlet		492	493	0.2%	200	532	533	0.2%		672	671	-0.1%	JLS	09/17/04		
Later Street Street		HERBY SEPTIMENT		RINGS STREET						对是所有的特别的问题	RESERVE AND AN ARREST OF					
MB7 Inlet		492	493	0.2%		535	535	0.0%		672	673	0.1%	EMA	07/15/05		
MB7 Outlet		492	493	0.2%		535	536	0.2%		672	672	0.0%	EMA	07/15/05		
				MACHINE CONT			The Company of the Company			Constant of the last						
MB8 Inlet		492	493	0.2%		528	527	-0.2%		672	675	0.4%	BPG	12/27/05		
MB8 Outlet	37.2	492	495	0.6%	201	528	529	0.2%		672	673	0.1%	BPG	12/27/05		
MB9 Inlet		492	497	1.0%		528	FAC									
MB9 Outlet		492	496	0.8%		528 528	526 529	-0.4% 0.2%		672 672	676	0.6%	BPG	12/27/05		
TARREST CONTROL			490	0.0%		528	529 529	U.Z70		6/2	671	-0.1%	BPG	12/27/05		
MB10 tolet		492	493	0.1%		524	525	0.2%		669	669	0.0%	BAG	04/07/00		
MB10 Outlet		493	494	0.1%		524	525	0.2%		668	668	0.0%	BAG BAG	04/27/06		
								7.275					50	04/2//06		
MB11 Inlet		492	493	0.2%		539	543	0,7%		670	668	-0.3%	BAG	08/23/06		
MB11 Outlet		492	493	0.1%		539	539	0.0%	1	670	669	-0.2%	BAG	08/23/06		
				rii Aastu												

Reference Thermocouple: Fluke S/N: 83450033 or S/N 90460057 traceable to the Untied States National Institute of Standards and Technology "Acceptable Deviation: 1.5%

Field Data and Calculations



Methods Performed 1 through 4 Client Run Number Pitot Number Leak Check Rates Location Stack Diameter Pitot Coefficient Sample Rate Pitot Source Barometric Pres. Stack TC I.D. in. + Date Static Pressure 30 Oven Box I.D. Initial 10 001 240 Operators Meter Box# Impinger Out I.D. Mid Start Time Meter delta H Flow Box t.D. Mid **End Time** Meter Gamma .083 Final 10 1001 Run No. 1 1350-1350 R3 1410-1430 Run No. 1350-1410 Sample Sample Orifice Meter Velocity Temperature Readings in Degrees Farenheit Impinger Data (vol) Point Time Setting Volume Head Velocity Meter Meter Vacuum Comments/Notes # Initial Stack Stack Impinger Final (in. H₂O) Head (ft^3) (in. H₂O) (min) Inlet Outlet (in. hg) 1 100 AI 675818 1.58 60 63 4 2 100 : 0 106 3 0 46 4 4 34 20 46 68 640 d 5 50 4 6 30 35 692.5 51 21 1.4 4 695.8 51 12 64 Silica Gel Data (gm) 40 <u>) 3</u> 75 199 1 51 4 # Initial Final 51 L, 66 1 278.0 285,7 3 50 52 4 2 55 710.1 53 78 U 5 712.6 4' 33 76 Moisture Gain PV= 115.753 gm Total Molecular Weight Data (%) # O_2 CO2 1 2 3



	,/3	j.						,						Method	is Per	forme	d 1 thre	ough 4
Client	11	orlite Ohors	M		Run No	ımber		ł- %		Pitot Num	rber	PS		[and C	bask Date	
Location		ohar	<u> </u>	1	Stack I	Diameter	- 4	18	•	Pitot Coe		. 24	<u> </u>	٠	<u>_</u>		heck Rates ple Rate	
Source		11+	<u> </u>			etric Pres.			•	Stack TC		95 95 08	-	•		in.	cfm.	Pitot
Date		Tuled				ressure		30	-	Oven Box	(I.D.	198	-	Initia	,	<u>8</u>	. 002	1
Operator		BH	25		Meter I	30x#		1	•	Impinger		F0-3		Mid	_		1. 00 x	V V
Start Tin	ne <u>14</u>	37			Meter o	ielta H		1.58	•	Flow Box	1.D.	<u> </u>	·	Mid				
End Tim	e <u>18</u>	3/7			Meter (3amma		1.083	-			*******		Fina		ス_	,001	VV
					Run No. 🗗	1437-14	155	Run No. 🥱	5 1454	- 15 A				R. 86 1519-	125-20	<u>~~</u>	100	VV
	Sample	Orifi		Meter	Velocity			mperature Rea	dings in D	egrees Far	renheit		Γ΄ Τ	1. 82 10 73 77	دی ه <i>ر</i>		Impinger Da	to (sell)
Point	Time	Sett		Volume	Head	Stack		Velocity	Stack	Impinger	Meter	Meter	Vacuum	Comments/Notes	.	#	Initial	Final
	(min)	(in, F	_	(ft ³)	(in. H ₂ O)	Oldek		Head	Stack	tuthuidei	Inlet	Outlet	(in. hg)		1	1	100	Final
Αı	5	ع، [8	716.014						61	67	60	4		-	2	100	 -
J.	10	4								50	64	1.6	4		-	3	0	
کر	15			<u></u>						524	71	67	4		─	4	سته می	
4	20	1		725,1						52	74	127	4		┪	5	-3-	1
5	25					,				57	74	67	4		\dashv	6		
6	30			ب.						54	25	68	7				· · · · · · · · · · · · · · · · · · ·	<u> </u>
1	35			~						55	96	68	4		\dashv	-	Silica Gel Da	ata (am)
B 1	40									35	76	1-2	4		_	#	Initial	Final
٠ 2	45			9495						55	76	68	4		_	1	210.6	218.6
3	50									55	27	68	4		ヿ゙	2	SLU16	~10.6
4	55			7500						56	27	62	4		\dashv	<u> </u>	·	L
5	60	4								56	22	68	ÿ		\neg		Moisture	Gain
6		Į-	V-	756.496											┪		1110101010	ml.
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*******	= - .i	n i												Methods I	Perfo	omeo	<u>1 thr</u>	ough 4	_
Client		polite I was n Unit#1	THE	Run Ni	umber		-9		Pitot Num	ber	13				Le	ak C	heck Rates		_
Location		was 1	7	Stack I	Diameter	4	8		Pitot Coe	fficient	.84 P5 To-						ole Rate	Pitot	
Source		Unit#1			etric Pres				Stack TC	I.D.	P5					n.	cfm	+ -	
Date		1110		Static I	ressure		30		Oven Box	κ I,D,				Initial	10	2 T	,002	4/1	=
Operator		36-/15		Meter I			1		Impinger	Out I.D.	10-	3		Mid					_
Start Tin		3.47		Meter o			1.5%		Flow Box	I.D.				Mid			*****		_
End Tim	e	1:47		Meter (Gamma		1 083	-						Final	16	2	1002	سا س	_
	···		,	Run No. 🔿	1549-11		Run No. 8	1607-1	1627				9	1627-164	12				_
1	Sample	Orifice	Meter	Velocity		Te	mperature Rea	dings in D	egrees Fa	renheit] [ľ[mpinger Da	ata (vol)	
Point	Time	Setting	Volume	Head	Stack	1	Velocity	Stack	Impinger	Meter	Meter	Vacuum	Commer	ts/Notes		#	inițial	Final	_
	(min)	(in. H ₂ O)	(ft ³)	(in. H ₂ O)			Head		, ,	inlet	Outlet	(in. hg)				1	100	197	_
	5	1.58	7.56,640						56	76	15%	4			.]	2	100	jey 0	
	10				<u> </u>				54	70	Gi	7				3 [0	O	
	15		765.7		ļ				یدد	76	66	نب				4	460		_
	20		76811						57	74	6.10	4				5			
	25			<u> </u>					<u> 52-</u>	76	67	4			[6			
	30		- 3/2	ļ					58	34	68	4			_				
	35		715			<u> </u>			53	77	65	4					ilica Gel D		
ļ	40		299,1		ļ	ļ			52-	77	69	24		 		#	Initial	Final	
ļ	45		-	ļ	<u> </u>				53	22	1.9	4				1	314.1	320.	<u>ર</u>
	50		064	<u> </u>	<u> </u>				54	21	70	4			[2			
	55	<u> </u>	7901	<u> </u>	 				55	77	70	4			۱,				
	60		79.3.4		 			,	56	78	70	4			╽┟		Moisture		_
		201	1 Down and		<u> </u>	ļ			 		 							_ml.	
		FV-	795,956		 	<u> </u>			 _		+		·					_gm	
	<u> </u>	·			 	ļ				ļ	ļ								
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															Methods i	erform	ed <u>1</u>	througi	h 4
Client		1/0/	lite		Run Ni	umber		<u>-</u> 3		Pitot Nun	nber	PI	•			Leak	Check Ra	tes	
Location		ohos nto	17	<u> </u>		Diameter	ž	18		Pitot Coe	fficient	1,80	j.	-			nple Rate		Pitot
Source	<u> </u>	Mtd	<u>, </u>			etric Pres.				Stack TC		05		•		in.	cfm		+ -
Date		5/12/1				Pressure				Oven Box	x I.D.			• -	Initial	10	301	V	
Operator		136-1	1,15		Meter I					Impinger	Out I.D.	<u></u>	2-3	•	Mid		1	_	Ť
Start Tim		7.49			. Meter o			58		Flow Box	I.D.			•	Mid			_	
End Time	е	3.49				Gamma	1.	033			,			•	Final	W	00	7 11	10
				·	Run No. 1 7	49-809		Run No. 入	20%-	829				#3 62					
	Sample	Orific	·	Meter	Velocity		Tei	mperature Rea	dings in D	egrees Fa	renheit					1	Impinger	Data ((vol)
Point:	Time	Setti	ng	- Volume	Head	Stack		Velocity	Stack	Impinger	Meter	Meter	Vacuum	Commer	nts/Notes	#			Final
	(min)	(ìń. H		(ft~)	(in. H ₂ O)	Otack		Head	Statis	Impinger	Inlet	Outlet	(in, hg)			1 1			302
	5	1.5	8	796.04	<u> </u>					47	59	58	2			2			02
	10			·						48	(; D	58	ス			3			
	15			801.1						49	63	59	2			4		_	
	20]	805.6						53	67	55	2			5			
	25							,		53	68	69	ユ		· · · · · · · · · · · · · · · · · · ·	6		\top	***************************************
ļ	30								*	57	69	60	2			1 —	······		
	35			-						51	70	61	2				Silica Gel	Data ((gm)
·	มป				ļ	ļ				50	22	62	2			#			Final
	45			820.6		ļ				48	73	63	2] [1	2982	2	302-5
	50,			\$245		<u> </u>	<u> </u>			47	R7274	64	2			2		\Box	
	55	- 4								48	7,5	1,5	2		··· ·· •·· • · · · · · · · · · · · · ·				
<u> </u>	60		7	833 %	<u> </u>	<u> </u>	ļ			49	7.5	65	2	<u> </u>			Moist	re Gai	in
		127		Cal		<u> </u>				ļ <u>.</u>				<u> </u>] [mi,	
		FV	<u> </u>	836.58	4	<u> </u>	<u> </u>	ļ		<u> </u>		<u> </u>]		gm	n
	<u> </u>				·		ļ	ļ											
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<u></u>	<u> </u>	ļ		. , , , , , ,		 					-		1	<u> </u>		j L			
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Methods Performed



EPA Method 4 Field Sheet

Client Location		lorline	In	<u> </u>	Run Nu	ımber Diameter	<u> </u>	¥-6		Pitot Num		P5 24		}		_		heck Rates	
Source	<u> </u>	11 + =)	<u>ルル</u> スゥ	16163-A		etric Pres.	4	£*		Pitot Coel Stack TC		24				1 .		ole Rate	Pitot
Date	5/	15/10		<u> </u>		ressure.		10	ı	Oven Box		P5 		}	la fala t	_	<u>n.</u>	cfm	+ -
Operator	rs /	10410 3411 455	4		Meter E			10		Impinger			<u> </u>		Initial	1	2	1024	
Start Tim	ne -	455			Meter d	_		37	1	Flow Box		10-	· <u> </u>		Mid Mid	-			
End Tim	e	552	*******		Meter C		! !	023	1	1 ION DOX	1.0.				Final	1			
	; 				Run No# 165		9	Run No.5)	713-10	32				21.10	32-185		<i>)</i>	1801 .	سمن اسميا
Sample	Sample	Orifi	ce	Meter	Velocity			nperature Rea	dings in D	egrees Far	enheit	_		<u> </u>	2-4-185	ſΓ		mpinger Da	ta (voi)
Point	Time	Setti	ng	Volume	Head	0		Velocity		T	Meter	Meter	Vacuum	Commen	te/Notee	-	#	Initial	Final
	(min)	(in, H	₂Ŏ)	(ft²)	(in, H ₂ O)	Stack		Head	Stack	Impinger	Injet	Outlet	(in, hg)	Commen	ISHNOICS	h	1	100	rinai.
	5	10	8	965,463			11.00		· · · · · · · · · · · · · · · · · · ·	45	22	71	4			1	2	100	
	15	1	```	~ ~ T			•			49	773	7	и			1	3	O	
	15			<u>ب</u>		-				50	74	26	ч			1	4	36-	
	20						• • • • • • •			50	- 75	12	4			1	5		
	35			974.1						50	76	ファ	4			1	6		
	3.0			9801	·					5	78	72	Ÿ			1 "			
	<u> کد ا</u>			984.6						51	79	72	4] [٤	Silica Gel Da	ata (gm)
	40									57	90	7) 7)2	4] [#	Initial	Final
	45									51	90	72	4] [1		L
	50	<u> </u>		992.1						5)	30	72	4			l	2		
ļ	55			996.4					ļ	51	30	?ユ	4]]			
	60			10001		ļl				5)	81	12	И] [Moisture	Gain
		1	V 2	1005,120] [_ml.
								***************************************		'						1			gm
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7		-		:	1. 2011. 2.10. 1.10				<u> </u>			1	· · · · · · · · · · · · · · · · · · ·			1	2	·	
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Methods Performed

1 through 4



EPA Method 4 Field Sheet

-														Methods	Performe	d 1 thr	ough 4	
Client		Norlite		Run N	umber	7	-9		Pitot Num	ber	Ps-				Leak (heck Rates		
Location		shues, 1 Unit≠2	17	Stack I	Diameter :	. 4	7"		Pitot Coef	fficient	.74					ple Rate	Pitot	
Source		Unit = 1		Barom	etric Pres.			,	Stack TC	I.D.	Pr		-	İ	in.	cfm	+	٠_
Date		1010 Bi-115		Static I	Pressure	,	10		Oven Box	c I.D.				Initial	66	- حجر		2
Operator	'S	151-115		Meter I	Box#		7		Impinger (Out I.D.	10-3			Mid			+	_
Start Tim	ne <u>2</u>	x loi2		Meter			1.52		Flow Box	I.D.				Mid			 	
End Tim	e	11/2		Meter (Gamma		1.087							Final	10	091	1.7	1
				Run No. 🤈	1012-10	32	Run No. 8	- 1032	- 1052				87 10	52-1112		90.7		<u> </u>
	Sample	Orifice	Meter	Velocity		Te	mperature Rea	dings in D	egrees Far	enheit				323_178		Impinger D	ata (vol)	_
Point	Time	Setting	Volume	Head	Stack		Velocity	Stack	Impinger	Meter	Meter	Vacuum	Commer	nts/Notes	#	Initial	Final	_
	(min)	(in. H ₂ Ö)	(ft²)	(in. H ₂ O)	Otack		Head	Stack	mpinger	Inlet	Outlet	(in. hg)	,		1 1	100	198	
	5	1.5%	876.880						46	20	68	2		······································	2	100	100	
	10								46	21	68	2	*****		3	0	0	
	15								48	21	68	え			4	56	1	
	20				;				49	72	18	3			5		 	
	25		870,1						43	93	68	2			1 6		-	
<u></u>	30		893,1	<u> </u>					49	24	68	12	-		1 —		1	
	25		8974						49	75	18	2		···· ·	1	Silica Gel D	ata (gm)	
	40		9011						49	7.5	48	2			#	Initial	Fina	il .
	45-		904.6						44	95	68	入			1		257.	
	50		9091	<u> </u>					49	75	68	2			1 2		1	_
	55		~		<u> </u>				49	25	68	ス			<u> </u>		<u></u>	_
	60	*	9741						49	74-	68	2			1	Moisture	Gain	
<u> </u>		<u></u>															ml.	_
<u></u>		FV=	917.184												1		_ gm	
<u></u>]							<u> </u>]			
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					ļ										Mol	ecular Weig	jht Data ((%)
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EPA Method 4 Field Sheet

	<i>₹</i>		_		. *									Methods f	erforme	ed <u>1 thr</u>	rough 4
Client	A	oclita	Inc 2811+7	Run No	ımber		1-3		Pitot Num	ber		-			losk (Check Rates	
Location		oboen		Stack (Diameter		1-3 18"	•	Pitot Coe		22	i				nple Rate	Pitot
Source	u	44世入	281147	Barom	etric Pres.			-	Stack TC		P5				in.	ofm	+ -
Date	_5	113/10		Static F	ressure			•	Oven Box					Initial	10	100	VV
Operator	S .	156/15		Meter i	Box#		1	_	Impinger		IO-	3		Mid	-	1 20 -	+
Start Tim	e '9	128		Meter	delta H		1.58	_	Flow Box			<u> </u>		Mid	<u> </u>		
End Time	e <u> </u>	9:28		Meter (Gamma		1.023	•	,					Final	20	1002	1/1/
				Run No. 1 - 5	128-948		Run No. 2	948-10	CZ				A3-10	08-1828	, ,,,	1,000	1010
Sample	Sample	Orifice	Meter	Velocity			nperature Rea			renheit				- 5 757-5		Impinger D	ata (vol)
Point	Time	Setting	Volume	Head	Stack		Velocity	Charle	Impinger	Meter	Meter	Vacuum	Commen	ts/Notes	#	Initial	Final
<u> </u>	(min)	(in. H₂Ō)	(ft²)	(in. H ₂ O)	Stack		Head	Stack	unhinger	Inlet	Outlet	(in. hg)			1 1	100	1
	.5	1.58	47.748						58	58	36	3			2	100	
	10	j	_						58	62	.56	3			3	0	
	15		54.1						58	66	56	3	_		1 4	56-	
	20		59.6						58	108	57	3		~~~	5		1
	25		_			7 7 7 1]	57	69	58	3			6		
	30		. —						5%	90	57	3					
	95		64.6						53	71	60	3				Silica Gel D	ata (gm)
	40		69.1						50	12	61	3	,		#		Final
	45		72.1						49	7 3	62	-3			1		7
	<i>5</i> 0		77.3						45	95	63	3			2		
	55		82.1		70				45	75	63	3			1		
	60	V	_						49	75	63	-5			1	Maisture	Gain
		FV=	87.312														ml.
															1 1	<u> </u>	gm
												1			1 1		
													,		1		Total
]		
		<u> </u>			1					1					Мо	lecular Weig	ght Data (%)
		<u></u>													#	O ₂	CO₂
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EPA Method 4 Field Sheet

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Client		lorlite :	Inc		Run Ni		4-	8"		Pitot Num	nber	P5	3			Leal	k Che	ck Rates		_
Location		Conces	RY		Stack (Diameter	4	84		Pitot Coe	fficient	,84			·			Rate	Pitot	-
Source	Un	<i>ት</i> *ኢ 2	21147		Barome	etric Pres.				Stack TC	I.D.	P5				in.		cfm		
Date		5/13/10	>	_	Static F	Pressure				Oven Box	k I.D.		,	•	Initial	18		100/	1/2	
.Operato	rs	B6/1			Meter t	3ox# -		,		Impinger		To-	₹	•	Mid	70	_	,,,,	1	=
Start Tin	ne j	036			Meter	delta H	1.	.58	-	Flow Box				•	Mid	 			+	-
End Tim	e //	136			Meter (Gamma		183	•				···		Final	11	5	002	u	Z
		_:			Run No. 🖟/	1036-10	58	Run No. 10	52 -1116	•				R3/16			1 1 2	000		_
Sample	Sample	Orifice	Me	eter	Velocity		Te	mperature Rea	dings in C	egrees Fai	renheit		T	12/1/6	17 36		Im	pinger Da	ata (vol)	-
Point	Time	Setting	Vol	ume	Head	- Clark		Velocity			9.4.4	Meter	Vacuum	Commen	te/Notoe		#	Initial		-
	(min)	(in: H ₂ ((f (f	t-)	(in. H ₂ O)	Stack		Head	Stack	Impinger	Inlet	Outlet	(in. hg)	Commen	(COLINO) (CO		1		Final 2/0	_
	5	1.58	87	433						55	72	68	23				2	120		-
	10									54	93	68	3				3	100	104	
	15				·····					53	74	69	3			1	4	50-		_
	20								·	53	25	65	3		· · · · · · · · · · · · · · · · · · ·	4 F	5	30-	 	
	25		100	0						52	26	70	13			• •	6		 	_
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EPA Method 4 Field Sheet

	10	•						,								Methods F	'erforme	1 1 th	ough 4	4
Source Main	Client		North	He		Run Nu	mber	1	7-9		Pitot Num	ber	P5			·	Leak C	heck Rate	s	
Sample S	Location		onos, N	7		Stack D	iameter		18"		Pitot Coef	fficient	.84							tot
Sample S		_Un	11-2	28	1147								195						1	
Sample S				à				3	2							initial	jø	802	2	
Sample S											Impinger (Out I.D.	10-	3		Mid				
Run No. 147 - 120 Run No. 120 - 120 Run No. 120 - 120 Run No. 120 - 120 Run No. 120 - 120 Run No. 120 - 120 Run No. 120 - 120 Run No. 120 - 120 Run No. 120 - 120 Run No. 120 - 120 Run No. 120 - 120 Run No. 120 - 120 Run No. 120 - 120 Run No. 120 - 120 Run No. 120 Ru						184 44					Flow Box	1.D.				Mid				
Sample Sample Sample Orffice Meter Time Setting Volume Head (fin. Hg.)	End Time		2149					$-L_{i}$	883					**			10	100,	~	
Point Time Setting Volume Head (in. H ₂ O) Stack Welcotty Head (in. H ₂ O) (in. H ₂ O) (in. H ₂ O) (in. H ₂ O) Stack Welcotty Head Head (in. H ₂ O)	<u></u>						-17.07								R9-122	7-1242				
(min) (in, H ₂ O) (ft') (in, H ₂ O) (state Head State Impirigal inlet Cutlet (in, hg)	1					,		Ten		dings in C	egrees Far		7							
Second S	Point		Settin	ġ,		Head	Stack			Stack	Impinger				Commer	its/Notes	<u> </u>			
10						(m. 13°C)			Head			met		(in. ng)			l 1			
15			1.58		128086														10	0
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Silica Gel Data (gm)					*		• .				49							560	4	
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# Initial Final #5 151,0 53 20 78 50 -										.,								NO O-15		
15 15 15 15 15 15 15 15		3/2	<u> </u>						· · · · · · · · · · · · · · · · · · ·	ļ			16							
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FV=			\ ₹		13 17			, . 		i			1/6							
Total	1		F-1/-	:	168 704		-				<u> </u>		·				1			
Molecular Weight Data (%)					- street												1			
Molecular Weight Data (%)		· · · · · · · · · · · · · · · · · · ·	 											1			1		Tota	il
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# O ₂ CO ₂									I						, , , ,					
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Methods Performed

Velocity Determination Data Sheet

Client	Morlite Inc	
Location	Cohois A.Y.	
Source	Kilne	
Date _	5113110	
Operator_	15	

Stack Diameter
Barometric Pressure
Probe ID
Velocity Guage ID

Run No.

48"
2992
PS
B2
82

Leak Check	pos.	neg
	200	
Post	XXXX	

Run No.		_
Traverse Point Number	Delta P (in. H20)	Stack Temp (^O F)
A	, ጉч	137
1	122	127
3	.84	111
4	.82	127
5	. 84	127
6	. 64	127
B	79	129
1	787	124
3	.84	129
IJ	. 84	124
5	.34	129
6	19	139
		•
		

	···	
Traverse Point	Delta P	Stack
Number	(in. H20)	Temp (^O F)
Al	78	126
2	.86	126
3	# 88	126
4	_88	126
5	.36	136
6	. 70	136
BL	, 74	126
<u> </u>	. 80	126
3	. 80	136
4	.72	126
5	,87	126
C	, 70	146
		-

		•
Traverse Point Number	Della P (in. H20)	Stack Temp (⁰ F)
Al	,69	129
2	, 80	129
3	,20	129
Ч	24	124
5	,82	130
6	. 79	130
Bi	. 79	130
3 3 5 6	. 86	129
3	. 82	124
ų	.82	124
5	. 34	129
6	,70	121

Static Pressure	120
Oxygen (%) Carbon Dioxide (%)	14.0
Wet Bulb (^o F) Dry Bulb (^o F)	-

Stalic Pressure	.2
Oxygen (%) Carbon Dioxide (%)	14
Wet Bulb (^O F) Dry Bulb (^O F)	-
ł.,	

Static Pressure	_2
Oxygen (%) Garbon Dioxíde (%)	14
Wet Bulb (^O F) Dry Bulb (^O F)	

O'BRIEN 5 GERE

Velocity Determination Data Sheet

Client Location	Nor	1025. N	nc.	Stack Baron
Source	Κì			Probe
Date	5/1	3/10		Veloci
Operator	r	<u> </u>		_
	Run No.	<u> </u>	-	Run No
	Traverse	Delta P	Stack	Traver
	Point Number	(in. H20)	Temp (°F)	Poin Numb
	Al	» 70.	130	AL
,	2	. 80	130	a
	3	,32	130	3
	Ц	. 8 મ	130	4
	5	84	130	5
	6	, 12	130	6
- 1	17	6.0	130	721

Stack Diameter
Barometric Pressure
Probe ID
Velocity Guage ID
, ,

48"
27.52
P4
82

Leak Check	pos.	neg
	STATE STATE	Olavi Su
hude (exte		

-		
Traverse Point	Della P	Stack
Number	(in. H20)	Temp (°F)
Al	, 10.	130
2	. 80	130
3	,32	130
4	84	130
5	<u>. 84</u>	130
6	, 12	130
B	. 64	130
3	, 18	130
	.20	130
3	.33	130
	. 83	130
5	+0	130
		•
		
	-	

Static Pressure	120
Oxygen (%) Carbon Dioxide (%)	14.5
Wet Bulb (^o F) Dry Bulb (^o F)	

Traverse Point	Della P	Stack
Number	(în. H20)	Temp (^O F)
AL	.12	124
l a	, 1 6	124
3	.50	134
4	,81	124
5	.62	124
6	.74	124
BI	.70	129
J	30	124
3	· 61	124
प 5 ७	. 20	124
5	182	129
6	a 64	124
	·	

Static Pressure	20
Oxygen (%) Carbon Dioxide (%)	14.5
Wet Bulb (^O F) Dry Bulb (^O F)	,

Traverse Point	Delta P (in. H20)	Stack Temp (⁰ F)
Number -	. 74	128
2	.80	128
	.82	128
3 1)	.84	1.18
5	. જેં૦	123
6 B1 9 3	.74	132
BI	-69	127
3	114	127
3	.80	127
3	,32	127
6	.70	12.7
		7.6.7
`		
		"

20
14.5

Velocity Determination Data Sheet

Client Location Source Date Operato	K	ile I nes, N in 3 13/10	nC. Y	Stack Diar Barometric Probe ID Velocity G
,	Run No.	7		Run No.
	Traverse Point Number	Delta P (in. H20)	Stack Temp (^O F)	Traverse Point Number
	Αl	.70	129	A-1
	3	. 18	124	ù
	3	.30	124	3
	Ч	. 24	129	ដ

Stack Diameter
Barometric Pressure
Probe ID
Velocity Guage ID

H8"	
24.42	_
ρς	
41	

Leak Check	pos.	neg
Post	222	

Traverse Point Number	Delta P (in. H20)	Stack Temp (^o F)
Al	. 70	12.9
1	. 18	124
3 4	.80	124
4	, 34	129
5	.84	124
6 BI	.72	129
BI	.12	128
3	24	128
	. 25	128
ų	.82	128
5	.82	128
6	. 10	128
	·	

ı 	·
Static Pressure	
Oxygen (%) Carbon Dioxide (%)	14.5
Wet Bulb (^o F) Dry Bulb (^o F)	
ory boild (1)	

Point	Delta P	Stack
Number	(In. H20)	Temp (⁰ F)
1-1	.74	130
à	.20	130
3	. 84	130
ή 5	.80	136
5	.88	130
ן ט	.72	130
BI	. 78	130
2	, ያን	130
3	.37	130
ч	.88	130
3 4 6	. 33	130
G	.72	130
,		

Static Pressure	.20
Oxygen (%) Carbon Dioxide (%)	14.5
Wet Bulb (^o F) Dry Bulb (^o F)	

		-
Traverse Point Number	Delta P (in. H20)	Stack Temp (⁰ F)
A-1	12	12.4
3	.80	174
3 4	.30	179
<u>4</u>	. 33	124
5	.38	129
6	• 76	129
B-1	14	124
3	80	129
3	~87	124
4	.86	124
5	. 84	129
6	,70	129
		,
,		
	,	
		·
Ì	• •	

Static Pressure	,20
Oxygen (%) Carbon Dioxide (%)	14.5
Wet Bulb (^o F) Dry Bulb (^o F)	·

Velocity Determination Data Sheet

Client	Nortife	INC.
Location	CO KOUS.	NY
Source	Kiln :	<u> </u>
Date	5/13/10	
Operator		45

Stack Diameter
Barometric Pressure
Probe ID
Velocity Guage ID

Run No.

Traverse

Point Number # [

> 3 4 5 G BI

48"
24.90
PS
B>

Run No.

Leak Check	pos.	neg
Mila		

Run No.	

asun no.	<u> </u>	-
Traverse Point Number	Delta É (in. H20)	Stack Temp (^O F)
Αl	,14	126
а	178	126
3	. 17	136
ч	.80	126
5	. 78	136
G	5a	136
BI	. 74	136
3 4 5 6	. 82	126
3	.81	136
9	. 68	136
5	,70	126
6	, 94	126
		
		
	<u> </u>	
	,	
1,	į	

Static Pressure	.20
Oxygen (%) Carbon Dloxide (%)	14.5
Wet Bulb (^o F) Dry Bulb (^o F)	

	
Delta P	Stack
(in. H20)	Temp (^o F)
.66	127
<i>, 1</i> 0	127
.70	127
.70	11.7
, Jv	127
, 54	127
.72	127
, 74	127
,16	127
.66	123
فلأنا م	127
.48	127
	1,1
· · · · · · · · · · · · · · · · · · ·	· · ·
	 i
	•
·	

Traverse Point Number	Delta P (in. H20)	Stack Temp (^O F)
A I	,74	128
2	80	128
3	,7·4	123
Ч	.66	128
5	.64	128
6	.44	128
13	.68	128
J.	.72	128
3 4 5	174	128
Ÿ	.64	128
5	.10	128
6	.50	128
	. <u>.</u>	
	:	
	,	
		-,
	-ii	

Static Pressure	. 20
Oxygen (%) Carbon Dioxide (%)	14.5
Wet Bulb (^o F) Dry Bulb (^o F)	; ************************************

Static Pressure	120
Oxygen (%) Carbon Dioxide (%)	14.5° 5
Wet Bulb (^O F) Dry Bulb (^O F)	

OBRIENS GERE

Velocity Determination Data Sheet

	_	
Client _	Norlice	Inc.
Location	Colves	Y. W. Y
Source	Kiln 2	
Date	5/13/10	-
Operator_		

Stack Diameter
Barometric Pressure
Probe ID
Velocity Guage ID

484
29.10
PS
82

Leak Check	pos.	neg
n L		
Post		

Run No		4	_
Traver Point Number		Delta P (in. H20)	Stack Temp (⁰ F)
Al	T	.70	128
2		a 72	128
3		. 12	123
4		•73	128
5		48	128
5 6 B1		.74	128
Bi		. 76	128
2		.74	125
3		.74	128
4 5		-66	128
5		-66	128
6		.54	13.8
	\top		
	1 -		

Traverse Point	Delta P (in. H20)	Stack Temp (^O F)
Number		101140 (1)
AL	.72	128
12	.72	128
3	· 44	138
Ч 5	.66	128
5	. 66	128
6	. 56.6b	128
B-)	.52	128
a	.72	128
3 4 5	,구식	128
4	.72	123
- 5	. 70	128
6	,50	128
		•
	····-	

Traverse Point	Delta P	Stack
Number	(in. H20)	Temp (°F)
Al	.64	129
2	.70	124
3	- 70	129
る 3 4	,74	129
5	. 74	124
	.74	124
6 Bl	. 50	13.6
3	.78	124
3	. 7B	129
ч	.80	124
3 4 5 6	.06	129
G	-54	124
-		
- +		
+		
		

Static Pressure	1,20
Oxygen (%) Carbon Dloxide (%)	14.5
Wet Bulb (^O F) Dry Bulb (^O F)	· · · · · · · · · · · · · · · · · · ·

Static Pressure	لهر
Oxygen (%) Carbon Dioxide (%)	14.5
Wet Bulb (^o F) Dry Bulb (^o F)	

Static Pressure	,20
Oxygen (%) Carbon Dioxide (%)	<u>14.5</u> 4
Wet Bulb (^o F) Dry Bulb (^o F)	

Velocity Determination Data Sheet

Client	Nortite	Inc.
Location	Cohoes.	NY
Source	Kiin	a ·
Date	9/13/10	
Operator		TS

Run No.

48"
29.90
15
3.2

Leak Check	pos.	neg
	Navel Residen	
Post		

Run No.	7	
	· · · · · · · · · · · · · · · · · · ·	-
Traverse	Della P	Stack
Point Number	(in. H20)	Temp (⁰ F)
Al	.72	128
		128
2	30	140
_3	. <i>7</i> 4	118
4	.68	128
5	-68	128
6	. 54	128
6 B1	.72	123
2	,12	138
3	.12	123
4	v 7 4	132
4 5	.74	128
G	.54	128
	. ,	
		
		7
├		

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	Ц
Wet Bulb (°F)	<u> </u>
Dry Bulb (°F)	

		· · · · · · · · · · · · · · · · ·
Traverse	Delta P	Stack
Point	(ln. H20)	Temp (^O F)
Number		, i.a.m. 7 . 7
MI	,64	128
a	, 10	128
3	. 12	119
Ÿ	.76	128
5	. }0	128
6	.48	128
5 6 B)	:ገ\$	128
2	,80	128
3 9 5 6	.30	128
Ų	.72	13.3
5	.70	128
G	.58	128
		`
	·	
	<u> </u>	
	·	,
		ı t

Static Pressure	.20
Oxygen (%) Carbon Dioxide (%)	14.5
Wet Bulb (^o F) Dry Bulb (^o F)	:

	-
Delta P (in, H20)	Stack Temp (^O F)
,64	128
.72	128
. 12	128
×74	128
. 70	118
.50	138
. 16	128
	(28
	128
	128
	178
150	12/5
,""	
	(in. H20) .64 .72 .74 .70 .50 .80 .71 .80

Static Pressure	_10
Oxygen (%) Carbon Dioxide (%)	14.5° 4
Wet Bulb (^o F) Dry Bulb (^o F)	

Velocity Determination Data Sheet

Client	Northe.	Inc.
Location	lohoe's.	# WY
Source	Kiin 2	
Date	5/13/10	
Operator	J S	

Stack Diameter
Barometric Pressure
Probe ID
Velocity Guage ID

48"
29.90
P5
62

Leak Check	pos.	пед
	N. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	Party Marca
Interest and the second		F 60 800
Post		.

Run No.		-
Traverse Point Number	Delta P (in. H20)	Stack Temp (^o F)
A	. 78	128
3	185	128
3	.82	123
ų	.84	128
5	.86	120
6	,52	138
B-1	.82	128
2	.90	128
3	.40	133
Ч	, 24	128
5	. 80	128
6	043	128

Static Pressure	120
Oxygen (%)	14.5
Carbon Dioxide (%)	_4
Wet Bulb (°F)	
Dry Bulb (^o f)	
-	

Traverse		T
Point	Delta P	Stack
Number	(in. H20)	Temp (^O F)
MUITUE!	<i>n.</i> ,	+
<u> </u>	, 84	111
7	. 80	113
3	.28	128
Ч	.82	128
5	. 75	128
3 4 5 6	. 48	128
B-1	.84	128
a	-40	128
2 3 4	.40	138
u	. 88	178
	.84	138
5		
6	.56	128
	<u> </u>	
		
		
		

Static Pressure	-,20
Oxygen (%) Carbon Dioxide (%)	14.5 U
Wet Bulb (^O F) Dry Bulb (^O F)	

,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		-
Traverse Point Number	Delta P (in. H20)	Stack Temp (^O F)
1-1	ی ۵۵ ر	128
2	.34	128
3	.86	128
Ч	,50	128
5	84	128
6	.50	138
B-1	.90	127
2	,43	127
3	,40	127
q	. 20	127
5	(3)	127
G	,50	127

Static Pressure	۵۲,
Oxygen (%)	14.5
Carbon Dioxide (%)	<u>. 4</u>
Wet:Bulb (^o F)	
Dry Bulb (^O F)	

Velocity Determination Data Sheet

Stack Temp (^OF) Run No.

	-	
Client	Worlite	INC.
Location	cohves.	NY
Source]	Kien 1	
Date	5/13/10	
Operator	Jς	

Stack Diameter
Barometric Pressure
Probe ID
Velocity Guage ID

Run No.

Traverse Point

Number

Leak Check	pos.	neg
	(100 GHC 2/4	e nerven
		建学
Post	1	

	-7
Run No.	ť

Kun No.		•
Traverse Point Number	Della P (in. H20)	Stack Temp (^O F)
At	. 84	127
3	.84	127
3	90	127
Ч	.40	127
5	.88	127
6	<u>,67</u>	127
131	.40	127
2 3 4 5	. 45	15.3
3	1.00	19.7
4	. Ro	(7-7
5	,88	127
6	,50	127

2 .84 126 3 .42 126 4 .40 126 6 .62 126 81 .40 126 2 .42 126 3 .42 126 3 .42 126 5 .78 126 6 .54 126	4 40 126 5 40 126 6 62 126 81 40 136 2 42 126 3 42 126 4 126 126 5 78 126	2	- 34	126
4 .40 126 5 .40 126 6 .62 126 81 .40 126 2 .42 126 3 .42 126 4 .20 126 5 .78 126	4 .40 [26 5 .40 [26 6 .62 [26 8 .40 [36 2 .42 [26 3 .42 [26 4 .20 [36 5 .78 [26	3	.42	126
6 .40 126 8 .62 126 8 .42 126 2 .42 126 3 .42 126 4 .20 126 5 .78 126	6 ,62 126 8	ų		(26
6 ,62 126 B1 ,90 126 2 ,92 126 3 ,92 126 4 ,20 126 5 ,78 126	6 ,62 126 B1 ,90 126 2 ,42 126 3 ,42 126 4 ,20 126 5 ,78 126			126
B1 .40 136 2 .42 126 3 .42 136 4 .80 136 5 .78 126	B1 .40 136 2 .42 126 3 .42 136 4 .20 136 5 .76 126	6		
3 ,42 126 3 ,42 126 4 ,80 126 5 ,78 126	3 ,42 126 3 ,42 126 4 ,20 126 5 ,78 126	18.1		126
5 ,78 126	5 , 78 126	2		126
5 ,78 126	5 , 78 126	3	,47	126
5 ,78 126	5 . 78 126	ч		13.6
6 54 136	6 54 176	5		126
			.54	
				-
			·	
				,

Delta P (in. H20)

26

Traverse Point Number	Delfa P (in. H20)	Stack Temp (^O F)
ji (, 8 ¥	126
A (2 3 4	47	126
3	,40	126
Ч	.40	126
5	.42	176
G	.60	เจเ
Bl	,90	126
7 3	,42	126
3	.95	126
4	.80	136
5	. 78	126
6	.44	126
	,	
	- · · · · · · · · · · · · · · · · · · ·	

Static Pressure	120
Oxygen (%) Carbon Dioxide (%)	
Wet Bulb (^O F) Dry Bulb (^O F)	<u> </u>

Static Pressure	120
Oxygen (%) Carbon Dloxide (%)	14.5
Wet Bulb (^o F) Dry Bulb (^o F)	

Static Pressure	120
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (⁰ F)	No. 10.
Dry Bulb (^o F)	<u> </u>

Velocity Determination Data Sheet

Run No:

-	_	
Client _	Norlite	INC.
Location	Cohoes,	MΑ
Source	Kin 2	
Date	5/13/10	
Operator		55

Stack Diameter	
Barometric Pressure	
Probe ID	
Velocity Guage ID	

Leak Check	pos.	neg
Post		

Run No.	Ч

	-	•
Traverse Point Number	Delta P (in, H20)	Stack Temp (^O F)
4	43	野12
а	-16	126
3	۶۴۶.	176
3 Y S	.82	ilb
5	380	126
6 B(2 3 4	.50	126
B	. 84	136
2	.40	126
3	. 28	176
ij	.42	126
5	.82	136
5	.56	126
		,

Static Pressure	_,,20
Oxygen (%) Carbon Dioxide (%)	_14. <i>\$</i> _4
Wet Bulb (^O F) Dry Bulb (^O F)	

Traverse Point Number	Delta P (in. H20)	Stack Temp (^O F)
Al	. 84	127
)	ı 90	127
3	.40	127
4	۰40	127
	.40	127
5	.60	127
<u>B1</u>	.38	12.7
12	1.00	127
3 4 5 6	.45	127
Ч	.90	IV
5	,30	127
6	.50	137
	· · · · · · · · · · · · · · · · · · ·	

Static Pressure	_, , , O.
Oxygen (%) Carbon Dioxide (%)	14.5
Wet Bulb (^O F) Dry Bulb (^O F)	

_	*	
Traverse Point Number	Delta P (in. H20)	Stack Temp (⁰ F)
A1	.84	136
1	.40	136
3	, 40	126
y	,40	126
	.qv	136
6	<u>,62</u>	126
B-1	,44	127
3 3 4 5	-43	127
3	190	127
4	, 2b	127
5	76	177
6	.48	127
	• .	
· . · · · · · · · · · · · · · · · · · ·		
	·	
	· · ·	

Static Pressure	,20
Oxygen (%) Carbon Dioxide (%)	14.5 4
Wet Bulb (^o F) Dry Bulb (^o F)	

AECOM Environment

Appendix C

Triad Chemicals, LLC Spiking Report

LIGHT-WEIGHT AGGREGATE KILN CPT SPIKING REPORT

Norlite Inc. Cohoes, New York

Test Dates: January 12, 2011 - January 13, 2011

Report Date: March 2, 2011

Triad Chemicals, Inc.

P.O Box 4529 Greensboro, North Carolina 27404 Phone: (336) 209-1498 FAX: (336) 323-2895

SPIKING REPORT for Norlite Inc.

March 2, 2011

TEST SITE: Cohoes, New York

Table of Contents

1.0	Introdu	ıction	′					
2.0	Metho	Methodology						
	2.2 2.3	Materials Equipment Injection Technique Data Collection and Tabulation	<i>'</i>					
3.0	Spiking	g Operations	2					
4.0	Results and Discussion							
5.0	Calibra	ation and Quality Assurance	2					
6.0	Summ	ary	3					
Append	dix A.	Certificate of Analysis	4					
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Append	dix C.	Graphical Presentation of Data	9					
Append	dix D.	Tabular Presentation of Data	.13					
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SPIKING REPORT For Norlite Inc.

TEST SITE: Cohoes, New York

1.0 INTRODUCTION

This report describes the spiking operations that were carried out at one condition, consisting of three three-hour runs, on Light-weight Aggregate Kiln #1at Norlite Inc. in Cohoes, New York. A Liquiflo gear pump was used to spike chlorobenzene. The project was completed as planned and on schedule.

2.0 METHODOLOGY

2.1. Materials

The material used for the spiking was chlorobenzene (CAS # 108-90-7) purchased from Univar Chemicals in Houston, Texas. The certificate of analysis for this material is in Appendix A.

2.2. Equipment

The injection of the material was carried out using a Liquiflo Model CDP 3330 gear pump. The flow rate was maintained using a Micro Motion Elite sensor in conjunction with a 1700R11ABUEZZZ (Micro Motion) transmitter in a dynamic feedback loop run by a Dell Inspiron-controlled Argonaut CamileConnect control system. Expected deviation from nominal flow rate was expected to be less than 0.5% (see Calibration Certificates, Appendix B).

The material were pumped through approximately fifteen feet of Teflon tubing to a stainless steel valved ½" fitting that had been preinstalled by Norlite personnel in the waste feed line. Back pressure of ~38 p.s.i. was noted.

2.3. Injection Technique

Spiking of the solutions was started one hour before the stack sampling was scheduled to begin. Each run required approximately three hours of stack sampling time.

2.4. Data Collection and Tabulation

The flow data from the inline Micro Motion flow meters and transmitters were collected at one-second intervals. This information was used by the controller to maintain the pumping rates at the desired set

point. The one-second data points were then saved to disk at fifteen-second intervals. Averaging to 1-minute intervals provided the data that is presented in graphical form in Appendix C and in tabular form in Appendix D. These 1-minute averages were also analyzed statistically, and the results are summarized in Table 1.

3.0 SPIKING OPERATIONS

Details of the Spiking Operations are presented in the Spiking Log in Appendix E. Spiking was started approximately one hour before stack sampling was scheduled to start each day. Method 23 PCDD/PCDF and Method 0031 VOST sampling were conducted at the same time. Overall (Method 23) Run 1 was conducted on January 12, 2011 from 1333 – 1635 at 60.00 lb. /hr. The pumping rate was increased on January 13 to 75.00 lb. /hr. with stack sampling for Run 2 and Run 3 being conducted from 0833 – 1135 and 1200 – 1530, respectively. Concurrently Method 0031 VOST stack sampling was carried out from 1403 – 1557 on January 12 and 0900 – 1101 and 1230 – 1446 on January 13 for Run 1, Run 2, and Run 3, respectively.

4.0 RES ULTS AND DISCUSSION

Table 1 summarizes the spiking results for each of the three runs and a statistical analysis of the one-minute averages. All spiking rates were within 0.1% of the desired set points. The standard deviations for all the data were within 6% of the set point. The stability of the spiking rates and consistency of the data indicate that the equipment was working properly.

Table 1. Norlite Inc., Cohoes, New York Pumping Rates and Data Analysis

Material	Method	Run Number	Nominal Pumping Rate (Lb. /hr.)	Average Pumping Rate (Lb./hr.)	Standard Deviation (Lb. /hr.)	Maximum (Lb. /hr.)	Minimum (Lb. /hr.)	Range (Lb. /hr.)
	23	C1A-R1	60.00	60.01	0.38	61.17	57.87	3.30
MCB	PCDD/PCDF	C1A-R2	75.00	75.00	0.29	75.91	74.10	1.81
		C1A-R3	75.00	75.04	0.43	76.56	73.75	2.81
		C1A-R1	60.00	60.03	0.40	61.17	57.87	3.30
MCB	0031 VOST	C1A-R2	75.00	75.01	0.29	75.91	74.10	1.81
		C1A-R3	75.00	75.06	0.45	76.56	73.75	2.81

5.0 CALIBRATION AND QUALITY ASSURANCE

Calibration curves for the pumps are in Appendix B and indicate that errors of \pm <0.5% would be expected for the system at the rates actually used.

Table 2. Norlite Inc., Cohoes, New York Chlorobenzene Spiking Rates

Material	Method	Run No.	Pumping Rate (Lb. /hr.)	Material Concentration (%)	Material Addition Rate (Lb./hr.)
	23	C1A-R1	60.01	≥99.9	≥59.95
MCB	PCDD/PCDF	C1A-R2	75.00	≥99.9	≥74,93
		C1A-R3	75.04	<u>></u> 99.9	≥74.96
		C1A-R1	60.03	≥99.9	≥59,97
MCB	0031 VOST	C1A-R2	75.01	<u>></u> 99.9	≥74.93
		C1A-R1	75.06	≥99.9	≥74.98

6.0 SUMMARY

No spiking problems were encountered throughout the testing. The consistency of the data and the statistical analyses indicate that the spiking equipment was working properly, and the project was completed on schedule.

opproved: _____

Aartin D. Friedman, Ph.D

President

APPENDIX A CERTIFICATE OF ANALYSIS

10/04/2010 17:09 (FAX) P. 001/002 Page: 1 to 2 Certificate of Analysis Univar Houston LANXESS Corporation 111 RIDC Park West Dr 777 Brisbane St. PITTSBURGH PA 15275-1112 Houston TX 77061-5044 771219 HS 090896191 Date: 09/24/2010 Material description Material CHLOROBENZENE 768159 173908 PURE Customer order data Your order no. Ship-to party HS-729928 3052913 Univar Houston Delivery data Dailyery no. Delivered quantity Planned delivery date Order no. 3012488716 / 000010 7,484.000 KG 69/30/2010 \$080297165 / 000010 Batch **Delivered quantity** 082610 7,484.000 KG Results Reported as tosted. Inspection method/ Result Specification Unit Characteristic 1) Optical reference Visual Coloriess to weakly yellow liquid complies 2) FT-IR-Spectroscopy Identity complies 3) GC:(norm.) Benzene <=0.02 Chlorobenzena 100.0 >= 99.9 1,4-Dichlorobenzena <#0.01 <= 0.02 1,2-Dichlorobenzene <=0.01 c=0.01 Water <= 100 mg/kg

S) APHA (Hazen)
Colour number (Hazen)

= 10

< 5

APPENDIX B CALIBRATION CERTIFICATES

Table 3. Norlite Inc., Cohoes, New York
Comprehensive Performance Test
Calibration Check

<u>Date</u>	Pump Number	Spiking <u>Material</u>	Spiking Rate (Lb. /hr.)	Calibration Pumping Rate (Lb. /hr.)	Initial Computer Mass (Lb.)	Final Computer Mass (Lb.)	Computer Mass (Lb.)	Scale Mass (Lb.)	Difference (Lb.)	Difference (%)
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			75.0	75.0	25,582	31,582	6.000	6.010	-0.10	-0,02
3/1/11	3	MCB	75.0	75.0	32.850	39.047	6.197	6.235	-0.038	-0.06
			75.0	75.0	65.039	71.186	6.125	6.147	-0.022	-0.36
			60.0	60.0	72.102	78.167	6.065	6.015	0.050	0.82
3/1/11	3	MCB	60.0	60.0	79.792	86.349	6.557	6.505	0.052	0.79
			60.0	60.0	88.242	94.366	6.124	6.105	0.019	0.31

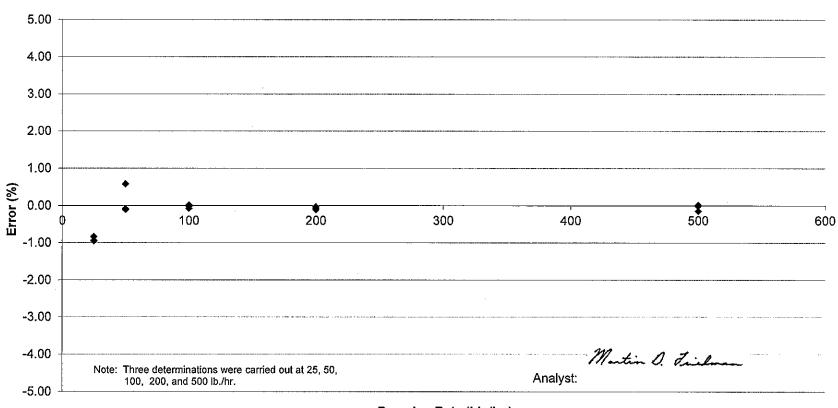
I certify that the above numbers are true and correct.

Approved:

Martin D. Friedman, Ph.D.

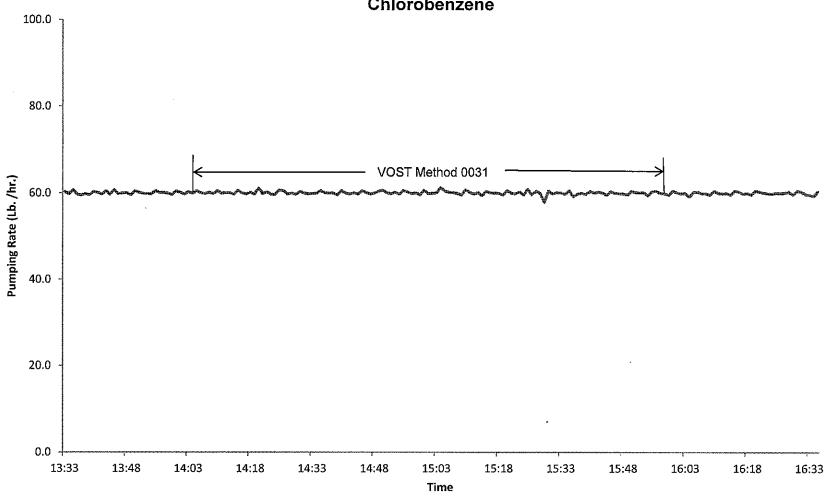
President

Pump 3 Calibration Chart Liquiflo Model CDP3330 Gear Pump S/N MO304032845 MicroMotion CMF025M39NU Sensor S/N 485371 MicroMotion 1700R11ABUEZZZ Transmitter S/N 3015552 Intercept = -250.33; slope = 62.46 March 8, 2010

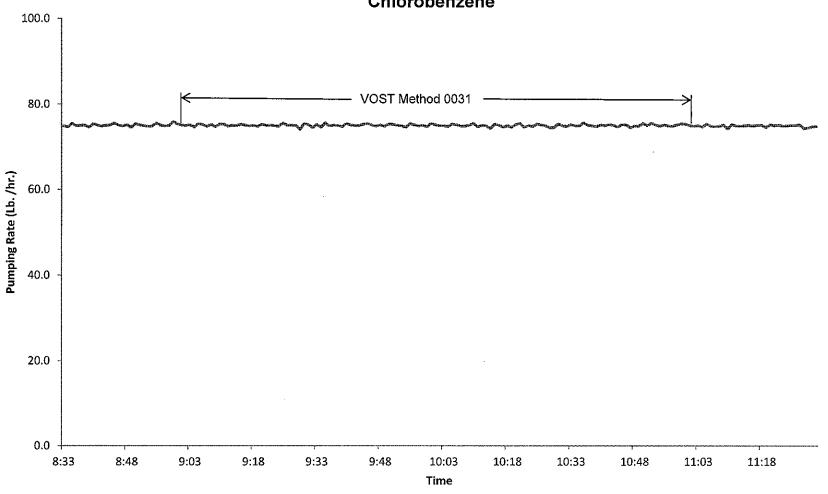


APPENDIX C GRAPHICAL PRESENTATION OF DATA

Norlite Inc., Cohoes, New York LWAK #1 Comprehensive Performance Test January 12, 2011 Condition 1A, Run 1 Chlorobenzene

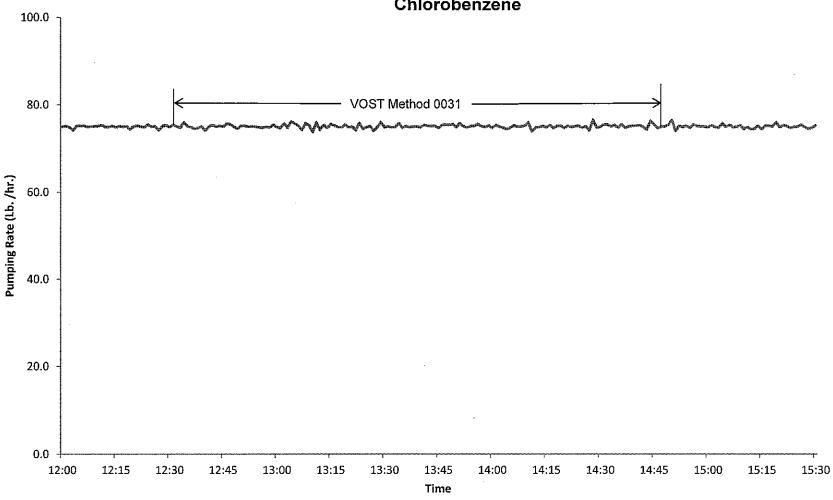


Norlite Inc., Cohoes, New York LWAK #1 Comprehensive Performance Test January 13, 2011 Condition 1A, Run 2 Chlorobenzene



Cohoes, New York

Norlite Inc., Cohoes, New York LWAK #1 Comprehensive Performance Test January 13, 2011 Condition 1A, Run 3 Chlorobenzene



APPENDIX D TABULAR PRESENTATION OF DATA

Norlite Inc.			PUMPING	TOTAL	METHOD 23 METHOD 0031
Cohoes, NY			RATE	MASS	RUN RUN
LWAK #1 CPT	<u>DATE</u>	<u>TIME</u>	<u>(Lb. /hr.)</u>	<u>(Lb.)</u>	STATUS STATUS
1-Minute Averages					
Chlorobenzene	1/12/2011	12:32	58.78	0.00	
Cond. 1A, Run 1	1/12/2011	12:33	60.10	0.98	
Page 1 of 6	1/12/2011	12:34	60.02	1.99	
•	1/12/2011	12:35	60.25	2.98	
	1/12/2011	12:36	60.07	3.99	
	1/12/2011	12:37	59.67	4.99	
	1/12/2011	12:38	59.85	5.99	
	1/12/2011	12:39	59.02	6.98	
	1/12/2011	12:40	60.95	8.03	
	1/12/2011	12:41	58.98	9.05	
	1/12/2011	12:42	56.82	10.05	
	1/12/2011	12:43	60.48	10.97	
	1/12/2011	12:44	59.90	11.98	•
	1/12/2011	12:45	60.56	12.98	•
	1/12/2011	12:46	60.13	13.98	
	1/12/2011	12:47	59.83	14.98	
	1/12/2011	12: 4 8	59.31	15.98	
	1/12/2011	12:49	60.86	16.97	
	1/12/2011	12:50	60.61	17.97	
	1/12/2011	12:51	59.88	18.98	
	1/12/2011	12:52	60.70	19.99	
	1/12/2011	12:53	59.40	21.00	
	1/12/2011	12:54	59.83	21.98	
	1/12/2011	12:55	60.53	22.97	
	1/12/2011	12:56	59.98	23.98	
	1/12/2011	12:57	60.12	24.98	
	1/12/2011	12:58	60.11	25.98	
	1/12/2011	12:59	59.66	26.98	
•	1/12/2011	13:00	60.40	27.98	
	1/12/2011	13:01	59.98	28.98	
	1/12/2011	13:02	60.06	29.98	
	1/12/2011	13:03	59.97	30.98	
	1/12/2011	13:04	59.66	31.98	
	1/12/2011	13:05	60.46	32.98	
	1/12/2011	13:06	59.93	33.98	
	1/12/2011	13:07	59.82	34.98	
	1/12/2011	13:08	60.01	35.98	
	1/12/2011	13:09	59.81	36.98	
	1/12/2011	13:10	60.45	37.98	
	1/12/2011	13:11	60.02	38.98	
•	1/12/2011	13:12	59.90	39.98	
	1/12/2011	13:13	60.13	40.98	
	1/12/2011	13:14	59.62	41.98	
	1/12/2011	13:15	60.61	42.98	
	1/12/2011	13:16	60.16	43.98	
	1/12/2011	13:17	59.88	44.98	
	1/12/2011	13:18	60.12	45.98	

Norlite Inc. Cohoes, NY			PUMPING RATE	TOTAL MASS	METHOD 23 METHOD 0031 RUN RUN
LWAK #1 CPT	DATE	TIME	(Lb. /hr.)	(Lb.)	
1-Minute Averages	DAIL	THYIL	(LD. ////.)	(LU.)	<u>STATUS</u> <u>STATUS</u>
Chlorobenzene	1/12/2011	13:19	59.67	46.98	
Cond. 1A, Run 1	1/12/2011	13:20	60.17	47.98	
Page 2 of 6	1/12/2011	13:21	59.87	48.98	
5	1/12/2011	13:22	59.92	49.98	
	1/12/2011	13:23	60.26	50.98	
	1/12/2011	13:24	59.71	51.98	
	1/12/2011	13:25	60.61	52.97	
	1/12/2011	13:26	60.00	53.98	
	1/12/2011	13:27	59.85	54.98	
	1/12/2011	13:28	60.10	55.98	
	1/12/2011	13:29	60.13	56.98	
	1/12/2011	13:30	59.55	57.98	
	1/12/2011	13:31	60.02	58.98	
	1/12/2011	13:32	59.91	59.98	
	1/12/2011	13:33	60.31	60.98	START
	1/12/2011	13:34	59.77	61.98	RUN 1
	1/12/2011	13:35	60.68	62.98	
	1/12/2011	13:36	59.72	63.99	
	1/12/2011	13:37	59.52	64.99	
	1/12/2011	13:38	59.81	65.98	e in Thirm in 1830 i
	1/12/2011	13:39	59.57	66.97	
	1/12/2011	13:40	60.31	67.97	
	1/12/2011	13:41	60.12	68.97	
	1/12/2011	13:42	59.73	69.97	
	1/12/2011	13:43	60.42	70.97	
	1/12/2011	13:44	59.66	71.98	
	1/12/2011	13:45	60.71	72.98	
	1/12/2011	13:46	59.82	73.98	
	1/12/2011	13:47	59.97	74.98	
	1/12/2011	13:48	60.01	75.98	
	1/12/2011	13:49	59.56	76.98	
	1/12/2011	13:50	60.45	77.98	
	1/12/2011	13:51	60.12	78.98	
	1/12/2011	13:52	59.88	79.98	
	1/12/2011	13:53	59.86	80.98	
	1/12/2011	13:54	59.78	81.98	
	1/12/2011	13:55	60.50	82.98	
	1/12/2011	13:56	60.08	83.98	
	1/12/2011	13:57	60.08	84.98	
	1/12/2011	13:58	59.92	85.98	
	1/12/2011	13:59	59.63	86.98	
	1/12/2011	14:00	60.40	87.98	
	1/12/2011	14:01	60.16	88.98	
	1/12/2011	14:02	59.75	89.98	
	1/12/2011	14:03	60.25	90.98	START
	1/12/2011	14:04	59.91	91.98	RUN1
	1/12/2011	14:05	60.46	92.98	

Norlite Inc. Cohoes, NY			PUMPING RATE	TOTAL MASS	METHOD 23 METHOD 0031
LWAK #1 CPT	<u>DATE</u>	<u>TIME</u>	(Lb. /hr.)	(Lb.)	RUN RUN
1-Minute Averages	·				STATUS STATUS
Chlorobenzene	1/12/2011	14:06	60.07	93.98	
Cond. 1A, Run 1	1/12/2011	14:07	59.83	94.98	
Page 3 of 6	1/12/2011	14:08	60.16	95.98	
•	1/12/2011	14:09	59.85	96.98	
	1/12/2011	14:10	60.47	97.98	
	1/12/2011	14:11	59.95	98.98	italitutellelet tag tag
	1/12/2011	14:12	60.00	99.98	
	1/12/2011	14:13	60.01	100.98	
	1/12/2011	14:14	59.73	101.98	
	1/12/2011	14:15	60.57	102.98	
	1/12/2011	14:16	59.98	103.98	
	1/12/2011	14:17	59.78	104.98	
	1/12/2011	14:18	60.15	105.98	
	1/12/2011	14:19	59.75	106.98	
	1/12/2011	14:20	61.13	107.98	
	1/12/2011	14:21	59.86	108.98	
	1/12/2011	14:22	60.21	109.98	
	1/12/2011	14:23	59.70	110.98	
	1/12/2011	14:24	59.65	111.98	
	1/12/2011	14:25	60.63	112.98	
	1/12/2011	14:26	60.50	113.99	
	1/12/2011	14:27	59.75	114.99	
	1/12/2011	14:28	59.97	115.99	
	1/12/2011	14:29	59.63	116.99	
	1/12/2011	14:30	60.35	117.98	
	1/12/2011	14:31	59.96	118.98	
	1/12/2011	14:32	59.81	119.98	
	1/12/2011	14:33	59.90	120.98	
•	1/12/2011	14:34	59.91	121.98	
	1/12/2011	14:35	60.53	122.98	
	1/12/2011	14:36	60.01	123.99	
	1/12/2011	14:37	59.97	124.99	
	1/12/2011	14:38	59.98	125.99	
	1/12/2011	14:39	59.55	126.99	
	1/12/2011	14:40	60.51	127.98	
	1/12/2011	14:41	59.97	128.99	
	1/12/2011	14:42	59.76	129.99	
	1/12/2011	14:43	60.02	130.99	
	1/12/2011	14:44	59.72	131.99	
	1/12/2011	14:45	60.50	132.98	
	1/12/2011	14:46	60.07	133.99	
	1/12/2011	14:47	59.78	134.99	
	1/12/2011	14:48	59.93	135.99	
	1/12/2011	14:49	60.40	136.99	
	1/12/2011	14:50	60.61	137.98	
	1/12/2011	14:51	60.03	138.99	
	1/12/2011	14:52	59.83	139.99	

Norlite Inc. Cohoes, NY LWAK #1 CPT 1-Minute Averages	<u>DATE</u>	<u>TIME</u>	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 METHOD 0031 RUN RUN STATUS STATUS
Chlorobenzene	1/12/2011	14:53	60.16	140.99	
Cond. 1A, Run 1	1/12/2011	14:54	59.71	141.99	
Page 4 of 6	1/12/2011	14:55	60.53	142.98	
, aga 1010	1/12/2011	14:56	60.22	143.98	
	1/12/2011	14:57	59.88	144.98	
	1/12/2011	14:58	60.02	145.98	
•	1/12/2011	14:59	59.60	146.98	
	1/12/2011	15:00	60.57	147.98	
	1/12/2011	15:01	59.87	148.98	
	1/12/2011	15:02	59.92	149.98	
	1/12/2011	15:03	60.06	150.98	
	1/12/2011	15:04	61.17	151.99	
	1/12/2011	15:05	60.42	152.98	
	1/12/2011	15:06	60.13	153.98	
	1/12/2011	15:07	60.08	154.98	
	1/12/2011	15:08	59.92	155.98	
	1/12/2011	15:09	59.53	156.98	
	1/12/2011	15:10	60.70	157.98	
	1/12/2011	15:11	60.16	158.98	
	1/12/2011	15:12	59.76	159.98	
	1/12/2011	15:13	60.10	160.99	
	1/12/2011	15:14	59.40	161.98	
	1/12/2011	15:15	60.33	162.98	
	1/12/2011	15:16	60.00	163.99	
	1/12/2011	15:17	59.98	164.98	
	1/12/2011	15:18	59.93	165.99	
	1/12/2011	15:19	59.55	166.98	
	1/12/2011	15:20	60.60	167.98	
	1/12/2011	15:21	59.95	168.99	
	1/12/2011	15:22	59.80	169.99	
	1/12/2011	15:23	60.23	170.99	
	1/12/2011	15:24	59.56	171.99	
	1/12/2011 1/12/2011	15:25 15:26	60.81 59.62	172.98	
			++	173.99	
	1/12/2011 1/12/2011	15:27 15:28	60.42 59.91	174.99 175.99	
	1/12/2011	15:29	57.87	176.99	
	1/12/2011	15:30	60.46	170.99	
	1/12/2011	15:31	59.83	178.98	
	1/12/2011	15:32	60.08	179.98	
	1/12/2011	15:33	59.98	180.98	
	1/12/2011	15:34	59.73	181.98	
	1/12/2011	15:35	60.50	182.98	
	1/12/2011	15:36	59.18	183.98	
	1/12/2011	15:37	59.77	184.98	
· ·	1/12/2011	15:38	59.95	185.98	de la la companya de la companya de la companya de la companya de la companya de la companya de la companya de
	1/12/2011	15:39	59.71	186.98	

Norlite Inc. Cohoes, NY LWAK #1 CPT	<u>DATE</u>	<u>TIME</u>	PUMPING RATE (Lb. /hr.)	TOTAL MASS (<u>Lb.)</u>	METHOD 23 METHOD 0031 RUN RUN STATUS STATUS
1-Minute Averages					
Chlorobenzene	1/12/2011	15:40	60.36	187.98	
Cond. 1A, Run 1	1/12/2011	15:41	60.02	188.98	
Page 5 of 6	1/12/2011	15:42	60.21	189.98	
	1/12/2011	15:43	60.02	190.99	
	1/12/2011	15:44	59.53	191.98	
	1/12/2011	15:45	60.32	192.98	
	1/12/2011	15:46	59.93	193.98	
	1/12/2011	15:47	59.90	194.98	
	1/12/2011	15:48	59.82	195.98	
	1/12/2011	15:49	59.57	196.98	
	1/12/2011	15:50	60.40	197.98	
	1/12/2011	15:51	60.11	198.98	
	1/12/2011	15:52	60.05	199.98	
	1/12/2011	15:53	60.07	200.98	
	1/12/2011	15:54	59.33	201.98	ileriy iyahi disida it ilikiliyin sa
	1/12/2011	15:55	60.36	202.98	
	1/12/2011	15:56	60.38	203.98	END
	1/12/2011	15:57	59.95	204.98	RUN1
	1/12/2011	15:58	59.86	205.98	
	1/12/2011	15:59	59.53	206.98	
	1/12/2011	16:00	60.45	207.98	
	1/12/2011	16:01	60.06	208.98	finis (di genta)
	1/12/2011	16:02	59.83	209.98	
	1/12/2011	16:03	59.96	210.98	
	1/12/2011	16:04	59.10	211.98	
	1/12/2011	16:05	60.18	212.98	
•	1/12/2011	16:06	60.17	213.98	
	1/12/2011	16:07	59.88	214.98	
	1/12/2011	16:08	59.86	215.99	
	1/12/2011	16:09	59.53	216.98	en grade en alle
	1/12/2011	16:10	60.41	217.98	(Trusque annual
	1/12/2011	16:11	59.95	218.99	
	1/12/2011	16:12	59.83	219.98	di niswa uto eta l
	1/12/2011	16:13	59.92	220.99	12 95 Namban 5 II
	1/12/2011	16:14	59.56	221.98	al a la companion
	1/12/2011	16:15	60.46	222.98	
	1/12/2011	16:16	60.23	223.98	
	1/12/2011	16:17	59.77	224.98	
	1/12/2011	16:18	59.91	225.99	analisa da Sal
	1/12/2011	16:19	59.58	226.98	
	1/12/2011	16:20	60.47	227.98	
	1/12/2011	16:21	60.23	228.98	
	1/12/2011	16:22	60.00	229.98	
	1/12/2011	16:23	59.87	230.99	
	1/12/2011	16:24	59.81	231.98	
	1/12/2011	16:25	60.01	232.98	
	1/12/2011	16:26	59.92	233.98	

Norlite Inc. Cohoes, NY LWAK #1 CPT 1-Minute Averages	<u>DATE</u>	<u>TIME</u>	PUMPING RATE (<u>Lb. /hr.)</u>	TOTAL MASS (Lb.)	RUN	ETHOD 0031 RUN STATUS
Chlorobenzene	1/12/2011	16:27	60.02	234.98		
Cond. 1A, Run 1	1/12/2011	16:28	60.25	235.99		
Page 6 of 6	1/12/2011	16:29	59.60	236.99		
	1/12/2011	16:30	60.43	237.98	and the second s	
	1/12/2011	16:31	60.25	238.99	1-11-12-12-12-12-12-12-12-12-12-12-12-12	
	1/12/2011	16:32	59.72	239.98	C19106141724274461461818	
	1/12/2011	16:33	59.53	240.99		
	1/12/2011	16:34	59.25	241.99	END	
	1/12/2011	16:35	60.28	242.98	RUN1	
•	1/12/2011	16:36	60.16	243.99		
	1/12/2011	16:37	59.91	244.98		
	1/12/2011	16:38	60.13	245.99		
	1/12/2011	16:39	59.61	246.99		
	1/12/2011	16:40	77.11	247.98		

Norlite Inc.			PUMPING	TOTAL	METHOD 23 METHOD 0031
Cohoes, NY			RATE	MASS	RUN RUN
LWAK #1 CPT	<u>DATE</u>	<u>TIME</u>	<u>(Lb. /hr.)</u>	<u>(Lb.)</u>	<u>STATUS</u> <u>STATUS</u>
1-Minute Averages					
Chlorobenzene	1/13/2011	7:38	73.40	0.00	
Cond. 1A, Run 2	1/13/2011	7:39	75.52	1.23	
Page 1 of 6	1/13/2011	7:40	75.05	2.48	
	1/13/2011	7:41	74.64	3.73	
	1/13/2011	7:42	74.96	4.98	
	1/13/2011	7:43	74.84	6.23	
	1/13/2011	7:44	75.75	7.47	
	1/13/2011	7:45	74.84	8.74	
	1/13/2011	7:46	74.82	9.98	
	1/13/2011	7:47	74.92	11.23	
	1/13/2011	7:48	74.80	12.48	
	1/13/2011	7:49	75.55	13.73	
	1/13/2011	7:50	74.99	14.98	
	1/13/2011	7:51	74.91	16.23	
	1/13/2011	7:52	75.25	17.48	
	1/13/2011	7:53	74.91	18.73	
	1/13/2011	7:54	75.64	19.98	
	1/13/2011	7:55	75.00	21.24	
	1/13/2011	7:56	74.86	22.49	
	1/13/2011	7:57	75.06	23.74	
	1/13/2011	7:58	74.57	24.99	
	1/13/2011	7:59	75.44	26.23	
	1/13/2011	8:00	75.17	27.49	
	1/13/2011	8:01	74.86	28.74	
	1/13/2011	8:02	75.20	29.99	
	1/13/2011	8:03	74.66	31.24	
	1/13/2011	8:04	75.57	32.48	
	1/13/2011	8:05	74.99	33.74	
	1/13/2011	8:06	74.56	34.99	
	1/13/2011	8:07	74.84	36.24	
	1/13/2011	8:08	74.70	37.48	
	1/13/2011	8:09	75.44	38.73	
	1/13/2011	8:10	75.02	39.98	
	1/13/2011	8:11	74.75	41.23	•
	1/13/2011	8:12	75.00	42.48	
•	1/13/2011	8:13	74.56	43.73	
	1/13/2011	8:14	75.49	44.98	
	1/13/2011	8:15	74.99	46.23	
	1/13/2011	8:16	74.89	47.48	
	1/13/2011	8:17	75.09	48.73	
	1/13/2011	8:18	74.81	49.98	
•	1/13/2011	8:19	75.45	51.23	
	1/13/2011	8:20	75.14	52.49	
	1/13/2011	8:21	74.86	53.74	
	1/13/2011	8:22	75.14	54.99	
	1/13/2011	8:23	74.67	56.24	
	1/13/2011	8:24	75.40	57.49	

Norlite Inc.			PUMPING	TOTAL	METHOD 23 METHOD 0031
Cohoes, NY			RATE	MASS	RUN RUN
LWAK #1 CPT	DATE	TIME	(Lb. /hr.)	<u>(Lb.)</u>	STATUS STATUS
1-Minute Averages			.		
Chlorobenzene	1/13/2011	8:25	75.14	58.74	
Cond. 1A, Run 2	1/13/2011	8:26	74.90	59.99	
Page 2 of 6	1/13/2011	8:27	74.95	61.24	
	1/13/2011	8:28	74.64	62.49	
	1/13/2011	8:29	75.56	63.74	
	1/13/2011	8:30	74.82	64.99	
•	1/13/2011	8:31	74.97	66.24	
	1/13/2011	8:32	74.62	67.50	
	1/13/2011	8:33	74.72	68.74	START
	1/13/2011	8:34	75.66	69.99	RUN 2
	1/13/2011	8:35	75.01	71.24	
	1/13/2011	8:36	74.42	72.49	
	1/13/2011	8:37	74.85	73.74	
	1/13/2011	8:38	74.67	74.99	
	1/13/2011	8:39	75.44	76.24	
	1/13/2011	8:40	74.91	77.49	
	1/13/2011	8:41	75.00	78.74	
	1/13/2011	8:42	75.05	79.99	
	1/13/2011	8:43	74.59	81.24	
	1/13/2011	8:44	75.36	82.49	
	1/13/2011	8:45	75.02	83.74	
	1/13/2011	8:46	74.81	84.99	
	1/13/2011	8:47	75.01	86.24	
	1/13/2011	8:48	75.04	87.49	
	1/13/2011	8:49	75.54	88.73	
	1/13/2011	8:50	75.06	89.98	
	1/13/2011	8:51	74.84	91.23	
	1/13/2011	8:52	75.11	92.48	
	1/13/2011	8:53	74.55	93.73	1.50 (17) (20) (7) (2) 1.50 (10) (6) (10) (5)
	1/13/2011	8:54	75.39	94.98	449080404444
	1/13/2011	8:55	75.10	96.23	
•	1/13/2011	8:56	74.95	97.49	
•	1/13/2011	8:57	74.75	98.74	
	1/13/2011	8:58	74.77	99.99	
	1/13/2011	8:59	75.54	101.24	
	1/13/2011	9:00	75.04	102.49	START
	1/13/2011	9:01	74.82	103.74	RUN 2
	1/13/2011	9:02	74.97	104.99	
	1/13/2011	9:03	75.91	106.24	
	1/13/2011	9:04	75.32	107.49	
	1/13/2011	9:05	75.04	108.74	
	1/13/2011	9:06	74.99	109.99	
	1/13/2011	9:07	75.09	111.25	
	1/13/2011	9:08	74.62	112.49	
	1/13/2011	9:09	75.37	113.74	
	1/13/2011	9:10	75.17	114.99	
	1/13/2011	9:11	74.76	116.24	

Norlite Inc. Cohoes, NY	5.475		PUMPING RATE	TOTAL MASS	METHOD 23 METHOD 0031 RUN RUN
LWAK #1 CPT	<u>DATE</u>	TIME	<u>(Lb. /hr.)</u>	<u>(Lb.)</u>	<u>STATUS</u> <u>STATUS</u>
1-Minute Averages Chlorobenzene	1/13/2011	9:12	75.20	117.49	
Cond. 1A, Run 2	1/13/2011	9:13	74.70	118.75	
Page 3 of 6	1/13/2011	9:14	75.31	119.99	
r age o or o	1/13/2011	9:15	75.27	121.24	
	1/13/2011	9:16	74.77	122.49	
	1/13/2011	9:17	75.01	123.75	
	1/13/2011	9:18	74.95	125.00	
	1/13/2011	9:19	75.26	126.25	
	1/13/2011	9:20	75.06	127.50	
	1/13/2011	9:21	74.84	128.75	
	1/13/2011	9:22	75.00	130.00	
	1/13/2011	9:23	74.74	131.25	
	1/13/2011	9:24	75.25	132.49	
	1/13/2011	9:25	74.96	133.75	
	1/13/2011	9:26	75.04	134.99	
	1/13/2011	9:27	74.90	136.25	
	1/13/2011	9:28	74.77	137.49	
	1/13/2011	9:29	75.59	138.74	
	1/13/2011	9:30	75.02	140.00	
	1/13/2011	9:31	75.04	141.25	
	1/13/2011	9:32	74.97	142.50	
	1/13/2011	9:33	74.10	143.75	
	1/13/2011	9:34	75.40	145.00	
	1/13/2011	9:35	75.17	146.25	
	1/13/2011	9:36	74.50	147.49	454 6 454 6 4 4 4 4 4 4 4 4 4 4 4 4 4 4
	1/13/2011	9:37	75.17	148.74	
	1/13/2011	9:38	74.60	149.99	
	1/13/2011	9:39	75.60	151.24	
	1/13/2011	9:40	74.89	152.50	
	1/13/2011	9:41	75.06	153.75	
	1/13/2011	9:42	74.97	155.00	
	1/13/2011	9:43	74.71	156.25	
	1/13/2011	9:44	75.44	157.50	
	1/13/2011	9:45	75.06	158.75	
	1/13/2011	9:46	74.96	160.00	
	1/13/2011	9:47	74.99	161.25	
	1/13/2011 1/13/2011	9:48 9:49	75.26 75.41	162.50	esiden spanskaren eta
	1/13/2011	9.49 9:50	75.41 75.07	163.75 165.00	
	1/13/2011	9.50 9:51	75.07 74.80	166.25	
	1/13/2011	9.51 9:52	74.80 75.10	166.25	
·	1/13/2011	9:52 9:53	75.10 74.80	168.75	
	1/13/2011	9.53 9:54	75.35	170.00	
	1/13/2011	9:55	75.35 75.20	170.00	
	1/13/2011	9:56	75.05	171.23	
	1/13/2011	9:57	74.89	172.35	
	1/13/2011	9:58	74.60	175.70	
			,		

Norlite Inc. Cohoes, NY			PUMPING RATE	TOTAL MASS	METHOD 23 METHOD 0031 RUN RUN
LWAK #1 CPT 1-Minute Averages	<u>DATE</u>	<u>TIME</u>	<u>(Lb. /hr.)</u>	<u>(Lb.)</u>	STATUS STATUS
Chlorobenzene	1/13/2011	9:59	75.45	176.25	
Cond. 1A, Run 2	1/13/2011	10:00	75.09	177.50	alan (1. Conflictorario de la
Page 4 of 6	1/13/2011	10:01	74.87	178.75	
	1/13/2011	10:02	75.02	180.00	
	1/13/2011	10:03	74.74	181.25	
	1/13/2011	10:04	75.41	182.49	
	1/13/2011	10:05	75.12	183.75	Country of the State of the Sta
	1/13/2011	10:06	74.92	185.00	
	1/13/2011	10:07	74.92	186.25	acinos y a como displactica della
	1/13/2011	10:08	74.74	187.50	
	1/13/2011	10:09	75.32	188.75	
	1/13/2011	10:10	75.19	190.00	este les consentations de la company
	1/13/2011	10:11	74.82	191.25	
	1/13/2011	10:12	74.85	192.50	
	1/13/2011	10:13	75.04	193.75	
	1/13/2011	10:14	75.46	195.00	
	1/13/2011	10:15	74.69	196.25	
	1/13/2011	10:16	75.00	197.49	
	1/13/2011	10:17	74.94	198.75	
	1/13/2011	10:18	74.31	200.00	
	1/13/2011	10:19	75.31	201.25	
	1/13/2011	10:20	75.05	202.50	
	1/13/2011	10:21	74.62	203.75	
	1/13/2011	10:22	74.95	205.00	
	1/13/2011	10:23	74.52	206.25	
	1/13/2011	10:24	75.25	207.50	
	1/13/2011	10:25	75.46	208.75	
	1/13/2011	10:26	74.57	210.00	
	1/13/2011	10:27	74.97	211.25	
	1/13/2011	10:28	74.75	212.50	
	1/13/2011	10:29	75.36	213.75	
	1/13/2011	10:30	75.09	215.01	lover properties and the
	1/13/2011	10:31	74.90	216.25	
	1/13/2011	10:32	74.47	217.51	
	1/13/2011	10:33	74.50	218.75	
	1/13/2011	10:34	75.35	220.00	
	1/13/2011	10:35	74.86	221.25	
	1/13/2011	10:36	74.77	222.50	
	1/13/2011	10:37	75.22	223.75	
	1/13/2011	10:38	74.90	225.00	
	1/13/2011	10:39	74.91	226.25	
	1/13/2011	10:40	75.61	227.49	
	1/13/2011	10:41	75.02	228.75	
	1/13/2011	10:42	74.90	230.00	
	1/13/2011	10:43	74.72	231.25	
·	1/13/2011	10:44	75.11	232.50	
	1/13/2011	10:45	74.95	233.75	

Norlite Inc.			PUMPING	TOTAL	METHOD 23 METHOD 0031
Cohoes, NY	DATE	TIME	RATE	MASS	RUN RUN
LWAK #1 CPT	<u>DATE</u>	<u>TIME</u>	<u>(Lb. /hr.)</u>	<u>(Lb.)</u>	STATUS STATUS
1-Minute Averages	1/13/2011	10:46	75.21	235.00	*10000000000000000000000000000000000000
Chlorobenzene Cond. 1A, Run 2	1/13/2011	10:40	75.21 75.01	236.26	
Page 5 of 6	1/13/2011	10:47	74.67	237.51	STREET CONTROL OF THE
rage 3 01 0	1/13/2011	10:48	75.17	238.76	
	1/13/2011	10:49	75.17 75.14	240.01	The state of the s
	1/13/2011	10:50	79.14 74.47	240.01	
	1/13/2011	10.51	74.47 74.87	242.50	
	1/13/2011	10:52		242.50	
	1/13/2011	10:53	74.82 75.50		
	1/13/2011	10:54		245.00	
	1/13/2011	10.55	74.96	246.26	
			75.56	247.51	
	1/13/2011 1/13/2011	10:57	75.11 74.84	248.76	
		10:58	74.84	250.01	
	1/13/2011	10:59	75.15	251.26	
	1/13/2011	11:00	74.87	252.51	END
	1/13/2011	11:01	74.84 75.40	253.76	RUN2
	1/13/2011	11:02	75.12	255.01	
	1/13/2011	11:03	75.41	256.27	
	1/13/2011	11:04	75.32	257.52	
	1/13/2011	11:05	74.99	258.76	
	1/13/2011	11:06	74.89	260.01	
	1/13/2011	11:07	74.97	261.27	
	1/13/2011	11:08	74.69	262.52	
	1/13/2011	11:09	75.36	263.76	
	1/13/2011	11:10	74.80	265.02	
	1/13/2011	11:11 11:12	74.76	266.26	
	1/13/2011		74.80	267.51	
	1/13/2011	11:13	75.14	268.76	
	1/13/2011	11:14 11:15	74.26	270.01	
	1/13/2011 1/13/2011		75.25	271.26	
	1/13/2011	11:16	74.90	272.51	
	1/13/2011	11:17 11:18	74.91	273.76	
	1/13/2011	11:10	74.94 75.04	275.01 276.26	
	1/13/2011	11:19	75.04 74.92		
	1/13/2011	11:21	74.92 75.06	277.51 278.76	
	1/13/2011	11:21	75.06 75.10	280.01	
	1/13/2011	11:22	75.10 74.57	281.26	
	1/13/2011	11:23	75.21	282.51	
	1/13/2011	11:25			
	1/13/2011	11:25	75.00 75.09	283.76 285.01	
	1/13/2011	11:26	75.09 74.92	286.26	
	1/13/2011	11:28	74.92 74.95	287.51	
	1/13/2011	11:20	74.95 75.06	288.76	
	1/13/2011	11:29	75.0 0 75.04	290.01	
	1/13/2011	11:31	75.0 4 75.16	290.01	
,	1/13/2011	11:32	75.16 74.32	291.20	
	1/10/2011	11.54	14.02	232.32	

Norlite Inc.			PUMPING	TOTAL	METHOD 23 METHOD 0031
Cohoes, NY			RATE	MASS	RUN RUN
LWAK#1 CPT	<u>DATE</u>	TIME	<u>(Lb. /hr.)</u>	<u>(Lb.)</u>	STATUS STATUS
1-Minute Averages					
Chlorobenzene	1/13/2011	11:33	74.46	293.77	
Cond. 1A, Run 2	1/13/2011	11:34	74.75	295.01	END
Page 6 of 6	1/13/2011	11:35	74.79	296.25	RUN 2
	1/13/2011	11:36	74.79	297.50	
	1/13/2011	11:37	74.51	298.75	
	1/13/2011	11:38	74.80	300.00	
	1/13/2011	11:39	75.14	301.25	
	1/13/2011	11:40	74.92	302.50	
	1/13/2011	11:41	75.09	303.75	
	1/13/2011	11:42	74.55	305.00	
	1/13/2011	11:43	75.01	306.25	
	1/13/2011	11:44	75.24	307.50	
	1/13/2011	11:45	74.99	308.75	

Norlite Inc.			PUMPING RATE	TOTAL MASS	METHOD 23 METHOD 0031
Cohoes, NY LWAK #1 CPT	DATE	<u>TIME</u>	(Lb. /hr.)	(Lb.)	RUN RUN <u>STATUS</u> <u>STATUS</u>
1-Minute Averages	DAIL	1 HVIL	(LD. III.)	(LD.)	SIAIUS SIAIUS
Chlorobenzene	1/13/2011	11:46	75.19	0.00	
Cond. 1A, Run 3	1/13/2011	11:47	74.96	1.25	
Page 1 of 5	1/13/2011	11:48	74.96	2.50	
1 ago 1 0/ 0	1/13/2011	11:49	75.21	3.75	
	1/13/2011	11:50	75.01	5.00	
	1/13/2011	11:51	75.14	6.25	
	1/13/2011	11:52	75.05	7.51	
	1/13/2011	11:53	74.72	8.76	
	1/13/2011	11:54	75.35	10.01	
	1/13/2011	11:55	74.95	11.26	
	1/13/2011	11:56	75.15	12.51	
	1/13/2011	11:57	75.13 75.01	13.76	
	1/13/2011	11:58	74.85	15.70	
	1/13/2011	11:59	75.25	16.26	
	1/13/2011	12:00	74.95	17.51	START
	1/13/2011	12:01	74.93 75.14	18.76	RUN 3
	1/13/2011	12:02	74.87	20.01	IXOIN O
	1/13/2011	12:02	74.12	21.26	et eile madiatio
	1/13/2011	12:03	74.12 75.16	22,51	
	1/13/2011	12:04	75.10 75.14	23.76	
	1/13/2011	12:06	75.14 75.16	25.70	
	1/13/2011	12:07	74.97	26.26	
	1/13/2011	12:08	74.99	27.51	
	1/13/2011	12:09	74.99 75.10	28.76	
	1/13/2011	12:10	75.10 75.07	30.01	
	1/13/2011	12:11	75.34	31.26	
	1/13/2011	12:12	74.91	32.51	
	1/13/2011	12:13	74.90	33.76	ia en estado de la
	1/13/2011	12:14	74.90 75.16	35.70 35.01	
	1/13/2011	12:14	74.81	36.26	Garage (ASSES)
	1/13/2011	12:16	75.09	37.50	Gradus Balan
	1/13/2011	12:17	74.97	38.76	
	1/13/2011	12:17	75.04	40.01	
•	1/13/2011	12:19	74.39	41.26	
	1/13/2011	12:20	75.04	42.51	
	1/13/2011	12:21	75.22	43.75	ATEGORES CONTRACTOR
	1/13/2011	12:22	74.97	45.01	
	1/13/2011	12:23	74.89	46.26	
	1/13/2011	12:24	75.45	47.51	
	1/13/2011	12:25	74.96	48.76	
	1/13/2011	12:26	75.10	50.01	GALLE STEELEN
	1/13/2011	12:27	74.20	51.26	
	1/13/2011	12:28	75.11	52.50	
	1/13/2011	12:29	75.30	53.75	uce Constitutos
	1/13/2011	12:30	74.89	55.00	START
	1/13/2011	12:31	74.0 3 75.37	56.25	RUN:3
	1/13/2011	12:32	75.05	57.51	
	17 10/2011	12.02	70.00	01.01	

Norlite Inc. Cohoes, NY LWAK #1 CPT	<u>DATE</u>	<u>TIME</u>	PUMPING RATE (Lb./hr.)	TOTAL MASS (Lb.)	METHOD 23 METHOD 0031 RUN RUN STATUS STATUS
1-Minute Averages	<u></u>	<u></u>	<u> </u>	A	
Chlorobenzene	1/13/2011	12:33	74.76	58.76	
Cond. 1A, Run 3	1/13/2011	12:34	75.95	60.01	
Page 2 of 5	1/13/2011	12:35	75.14	61.25	
-	1/13/2011	12:36	74.86	62.50	
	1/13/2011	12:37	74.49	63.75	
	1/13/2011	12:38	74.70	65.00	
	1/13/2011	12:39	75.06	66.25	
	1/13/2011	12:40	74.15	67.51	
	1/13/2011	12:41	75.00	68.75	
	1/13/2011	12:42	75.34	70.00	
	1/13/2011	12:43	74.99	71.25	
	1/13/2011	12:44	75.14	72.50	
	1/13/2011	12:45	75.01	73.75	
	1/13/2011	12:46	75.64	75.01	
	1/13/2011	12:47	75.52	76.26	
	1/13/2011	12:48	74.95	77.50	
	1/13/2011	12:49	74.51	78.76	
	1/13/2011	12:50	75.19	80.01	
	1/13/2011	12:51	75.19	81.25	Charles Charles Charles Commission
	1/13/2011	12:52	75.00	82.51	
	1/13/2011	12:53	75.06	83.76	
	1/13/2011	12:54	74.96	85.01	
	1/13/2011	12:55	74.86	86.26	
	1/13/2011	12:56	74.75	87.50	
	1/13/2011	12:57	74.95	88.75	
	1/13/2011	12:58	74.82	90.01	
4	1/13/2011	12:59	75.37	91.26	
	1/13/2011	13:00	74.92	92.52	
	1/13/2011	13:01	74.65	93.76	
	1/13/2011	13:02	75.69	95.00	
	1/13/2011	13:03	74.75	96.26	giris de sa francisco di Salab in
	1/13/2011	13:04	76.19	97.52	
	1/13/2011	13:05	75.71	98.76	
	1/13/2011	13:06 13:07	75.26 74.24	100.01	
	1/13/2011 1/13/2011	13:08	74.24 75.79	101.26 102.50	
	1/13/2011	13:09	75.79 75.21	102.50	
	1/13/2011	13:10	73.75	105.77	net resolution di segliore della
	1/13/2011	13:11	75.75 75.96	105.02	
	1/13/2011	13:12	74.26	100.23	
	1/13/2011	13:12	74.26 75.37	107.51	
	1/13/2011	13:14	74.72	110.01	
	1/13/2011	13:15	75.57	111.25	
	1/13/2011	13:16	75.29	112.50	
	1/13/2011	13:17	74.92	113.76	
	1/13/2011	13:18	74.84	115.01	
	1/13/2011	13:19	75.44	116.26	

Norlite Inc. Cohoes, NY LWAK #1 CPT	<u>DATE</u>	<u>TIME</u>	PUMPING RATE (Lb./hr.)	TOTAL MASS (Lb.)	METHOD 23 METHOD 0031 RUN RUN STATUS STATUS
1-Minute Averages Chlorobenzene Cond. 1A, Run 3 Page 3 of 5	1/13/2011 1/13/2011 1/13/2011	13:20 13:21 13:22	74.86 75.00 74.17	117.51 118.76 120.01	
3	1/13/2011 1/13/2011	13:23 13:24	75.85 74.46	121.25 122.52	
	1/13/2011 1/13/2011	13:25 13:26	74.86 75.16	123.76 125.00	
	1/13/2011	13:27	74.01	126.26	
	1/13/2011 1/13/2011	13:28 13:29	74.85 76.01	127.49 128.74	
	1/13/2011 1/13/2011	13:30 13:31	74.82 75.04	130.01 131.26	
	1/13/2011 1/13/2011	13:32 13:33	74.84 74.86	132.51 133.76	
	1/13/2011 1/13/2011	13:34 13:35	75.81 74.77	135.01 136.26	
	1/13/2011 1/13/2011	13:36 13:37	75.11 74.87	137.51 138.76	
	1/13/2011 1/13/2011 1/13/2011	13:38 13:39	74.97 75.06 74.81	140.01 141.26	
	1/13/2011 1/13/2011 1/13/2011	13:40 13:41 13:42	74.81 75.37 75.12	142.51 143.75 145.01	
	1/13/2011 1/13/2011 1/13/2011	13:43 13:44	75.12 75.10 75.20	146.26 147.51	
	1/13/2011 1/13/2011 1/13/2011	13:45 13:46	74.69 75.36	148.76 150.00	
	1/13/2011 1/13/2011 1/13/2011	13:47 13:48	75.45 75.39	151.26 152.50	
	1/13/2011 1/13/2011 1/13/2011	13:49 13:50	75.55 74.85	153.76 155.01	
	1/13/2011 1/13/2011 1/13/2011	13:51 13:52	74.03 75.81 75.05	156.25 157.50	
	1/13/2011 1/13/2011	13:53 13:54	74.79 75.10	158.76 160.01	
	1/13/2011 1/13/2011 1/13/2011	13:55 13:56	75.16 75.60	161.26 162.51	
	1/13/2011 1/13/2011	13:57 13:58	75.09 74.91	163.76 165.01	
	1/13/2011 1/13/2011	13:59 14:00	75.21 74.72	166.26 167.51	
	1/13/2011 1/13/2011	14:01 14:02	75.35 74.95	168.76 170.01	
	1/13/2011 1/13/2011	14:03 14:04	74.79 74.39	171.26 172.51	
	1/13/2011 1/13/2011	14:05 14:06	74.71 75.30	173.76 175.01	

Norlite Inc. Cohoes, NY LWAK #1 CPT	<u>DATE</u>	<u>TIME</u>	PUMPING RATE (Lb./hr.)	TOTAL MASS (Lb.)	METHOD 23 METHOD 0031 RUN RUN STATUS STATUS
1-Minute Averages Chlorobenzene Cond. 1A, Run 3 Page 4 of 5	1/13/2011 1/13/2011 1/13/2011 1/13/2011	14:07 14:08 14:09 14:10	74.99 75.02 75.20 75.97	176.26 177.51 178.76 180.01	
	1/13/2011 1/13/2011 1/13/2011 1/13/2011	14:11 14:12 14:13 14:14	73.90 74.76 74.89 75.15	181.27 182.51 183.76 185.01	
	1/13/2011 1/13/2011 1/13/2011	14:15 14:16 14:17	73.13 74.82 75.31 74.64	186.26 187.51 188.76	
	1/13/2011 1/13/2011 1/13/2011 1/13/2011	14:18 14:19 14:20 14:21	75.19 75.17 74.72 75.15	190.01 191.27 192.51 193.76	
	1/13/2011 1/13/2011 1/13/2011	14:22 14:23 14:24	74.92 75.06 75.21	195.01 196.26 197.51	
	1/13/2011 1/13/2011 1/13/2011 1/13/2011	14:25 14:26 14:27 14:28	74.79 75.06 74.15 76.56	198.76 200.01 201.26 202.50	
	1/13/2011 1/13/2011 1/13/2011 1/13/2011	14:29 14:30 14:31 14:32	74.76 74.96 75.42 75.50	203.76 205.01 206.25 207.51	
	1/13/2011 1/13/2011 1/13/2011 1/13/2011	14:33 14:34 14:35	75.36 75.36 74.79	207.51 208.76 210.02 211.26	
	1/13/2011 1/13/2011 1/13/2011 1/13/2011	14:36 14:37 14:38 14:39	75.45 74.74 75.06 75.15	212.51 213.76 215.01 216.26	
	1/13/2011 1/13/2011 1/13/2011	14:40 14:41 14:42	75.19 75.32 74.92	217.51 218.76 220.01	
	1/13/2011 1/13/2011 1/13/2011 1/13/2011	14:43 14:44 14:45 14:46	74.32 76.26 75.41 74.64	221.26 222.50 223.75 225.01	END RUN 3
	1/13/2011 1/13/2011 1/13/2011	14:47 14:48 14:49	75.02 75.02 75.42	226.26 227.51 228.76	
	1/13/2011 1/13/2011 1/13/2011 1/13/2011	14:50 14:51 14:52 14:53	, 76.45 74.00 75.17 74.92	230.01 231.27 232.51 233.77	

Norlite Inc.			PUMPING	TOTAL	METHOD 23 METHOD 0031
Cohoes, NY			RATE	MASS	RUN RUN
LWAK#1 CPT	<u>DATE</u>	<u>TIME</u>	<u>(Lb. /hr.)</u>	<u>(Lb.)</u>	STATUS STATUS
1-Minute Averages					
Chlorobenzene	1/13/2011	14:54	75.19	235.02	
Cond. 1A, Run 3	1/13/2011	14:55	74.71	236.26	
Page 5 of 5	1/13/2011	14:56	75.51	237.51	
	1/13/2011	14:57	75.10	238.76	
	1/13/2011	14:58	75.02	240.01	
	1/13/2011	14:59	74.99	241.26	
	1/13/2011	15:00	74.81	242.51	
	1/13/2011	15:01	75.30	243.75	
	1/13/2011	15:02	74.91	245.01	
	1/13/2011	15:03	74.72	246.26	
	1/13/2011	15:04	75.72	247.52	
	1/13/2011	15:05	74.97	248.76	
	1/13/2011	15:06	75.36	250.01	
	1/13/2011	15:07	74.81	251.26	
	1/13/2011	15:08	74.95	252.51	
	1/13/2011	15:09	75.29	253.76	
	1/13/2011	15:10	74.45	255.02	
	1/13/2011	15:11	74.90	256.26	
	1/13/2011	15:12	74.40	257.51	
	1/13/2011	15:13	74.52	258.75	
	1/13/2011	15:14	75.15	260.01	
	1/13/2011	15:15	74.40	261.26	
	1/13/2011	15:16	75.20	262.50	
	1/13/2011	15:17	75.20	263.76	
	1/13/2011	15:18	74.99	265.01	
	1/13/2011	15:19	75.97	266.27	
	1/13/2011	15:20	74.87	267.51	
•	1/13/2011	15:21	75.29	268.76	
	1/13/2011	15:22	75.25 75.10	270.01	
	1/13/2011	15:23	74.69	271.26	
	1/13/2011	15:24	74.09 74.95	272.51	era de distribuir
	1/13/2011	15:25	74.99	273.76	
	1/13/2011	15:26	74.99 75.42	275.70	
•					
	1/13/2011	15:27	74.90	276.27	
	1/13/2011	15:28	74.50	277.51	FOR
	1/13/2011	15:29	74.72	278.76	END
	1/13/2011	15:30	75.24	280.01	RUN 3
	1/13/2011	15:31 15:33	75.65	281.25	
	1/13/2011	15:32	74.80	282.51	
	1/13/2011	15:33	75.07	283.76	
	1/13/2011	15:34	75.25	285.02	
•	1/13/2011	15:35	88.24	286.27	
	1/13/2011	15:36	75.47	287.82	
	1/13/2011	15:37	37.49	289.08	

APPENDIX E FIELD SPIKING LOG

Field Spiking Log

Norlite Inc.

Cohoes, New york

January 11, 2011 (All times Eastern Standard Time)

0700	Departed Greensboro, North Carolina.
1230	Arrived Cohoes, New York.
1330	Arrived at Norlite plant. Started setup.
1730	Setup complete. Departed plant.

January 12, 2011

Arrived at plant.
One pump on-line and stable at set point.
Pump 3 Chlorobenzene 60.0 Lb. /hr.
Stack sampling started for Condition 1A, Run 1.
Stack sampling started for VOST Method 0031 Condition 1A,
Run 1.
Stack sampling for VOST Method 0031 Run 1 complete.
Stack sampling for Run 1 complete.
Departed plant.

January 13, 2011

0630	Arrived at plant.
0738	One pump on-line and stable at set point.
	Pump 3 Chlorobenzene 75.0 Lb. /hr.
0837	Stack sampling started for Condition 1A, Run 2.
0900	Stack sampling started for VOST Method 0031 Condition 1A,
	Run 2.
1101	Stack sampling for VOST Method 0031 Run 2 complete.
1135	Stack sampling for Run 2 complete.
1200	Stack sampling started for Condition 1A, Run 3.
1230	Stack sampling started for VOST Method 0031 Condition 1A,
	Run 3.
1446	Stack sampling for VOST Method 0031 Run 3 complete.
1533	Stack sampling for Run 3 complete.
1545	Demob started.
1730	Departed plant.

January 14, 2011

0815	Departed Albany, New York.
1215	Arrived in Greensboro, North Carolina.

AECOM Environment

Appendix D

Analytical Lab Reports for Kiln Feed Materials

Adirondack Lab Report for January 2011 Test	pg D-1
Adirondack Lab Report for October 2010 Test	pg D-127

AECOM Environment

Adirondack Lab Report for January 2011 Test



314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891 www.adirondackenvironmental.com

Norlite Corp. 628 South Saratoga Street Cohoes, New York 12047

Attention: Prince Knight



314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891 www.adirondackenvironmental.com

TITLE PAGE

On January 14, 2011 six liquid and six solid samples were received by Adirondack Environmental Services, Inc. from Norlite at the Cohoes site. These samples were analyzed for Metals and Physical Parameters in accordance with methodology as detailed by the contract. The project was completed on February 10, 2011.

Laboratory Manager

Date: 2/10/1



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SAMPLE DATA
SUMMARY PACKAGE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer	Laboratory	*VOA	*BNA	*PCB	*Pest	*Metals	*Other
Sample	Sample	GC/MS	GC/MS	GC	GC	l i	CN
Code	Code	Method	Method	Method	Method	1	
LLGF-C1RT-R1	110114014-001					Х	X
LLGF-C1RT-R2	110114014-002					X	X
LLGF-C1RT-R3	110114014-003					X	X
LLGF-C1A-R1	110114014-004					X	X
LLGF-C1A-R2	110114014-005					X	Х
LLGF-C1A-R3	110114014-006	1				X	X
Shale-C1RT-R1	110114014-007					X	X
Shale-C1RT-R2	110114014-008					X	X
Shale-C1RT-R3	110114014-009					Х	Х
Shale-C1A-R1	110114014-010					Х	X
Shale-C1A-R2	110114014-011					X	Х
Shale-C1A-R3	110114014-012					X	Х

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSES

Laboratory			Date Rec'd	Date	Date
Sample ID	Matrix	Metals Requested	at Lab	Prepared	Analyzed
110114014-001	LIQUID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Ash			1/27/11
. <u>.</u>		Heating Value		14.04.1	1/18/11
	1	Chlorine (IC)		1/18/11 1/18/11	1/25/11
		Chlorine (Titration) Density		1/18/11	2/8/11 1/27/11
		Density			1/2//11
110114014-002	LIQUID	ICP	1/14/11	1/20/11	1/26/11
11011101102	2.40.2	Mercury	1/111	1/26/11	1/26/11
	· · · · · · · · · · · · · · · · · · ·	1/1010412		21,20,21	112011
		Ash			1/27/11
		Heating Value			1/18/11
, ,		Chlorine (IC)		1/18/11	1/25/11
		Chlorine (Titration)		1/18/11	2/8/11
		Density			1/27/11
110114014-003	LIQUID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Ash			1/07/11
		Heating Value			1/27/11 1/18/11
		Chlorine (IC)	+	1/18/11	1/25/11
	-	Chlorine (Titration)		1/18/11	2/8/11
		Density ·	1	1/10/11	1/27/11
					11-17-1
110114014-004	LIQUID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Ash			1/27/11
		Heating Value			1/18/11
		Chlorine (IC)		1/18/11	1/25/11
	<u></u>	Chlorine (Titration)		1/18/11	2/8/11
		Density			1/27/11
110114014-005	LIQUID	ICP	1/14/11	1/20/11	1/26/11
110114014-003	LIQUID	Mercury	1/14/11	1/26/11	1/26/11
		Metcuty	 	1/20/11	1/20/11
		Ash	+ +		1/27/11
		Heating Value			1/18/11
		Chlorine (IC)	1	1/18/11	1/25/11
		Chlorine (Titration)		1/18/11	2/8/11
		Density			1/27/11

:00002

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSES

Laboratory			Date Rec'd	Date	Date
Sample ID	Matrix	Metals Requested	at Lab	Prepared	Analyzed
110114014-006	LIQUID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Ash			1/27/11
		Heating Value			1/18/11
		Chlorine (IC)		1/18/11	1/25/11
•		Chlorine (Titration)		1/18/11	2/8/11
		Density			1/27/11
110114014-007	SOLID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Chlorine		1/21/11	1/25/11
		, , , , , , , , , , , , , , , , , , , ,			
110114014-008	SOLID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		011			
	· ·	Chlorine	· · · · ·	1/21/11	1/25/11
110114014-009	SOLID	ICP	1/14/11	1/20/11	1/26/11
110114014-005	BOLID	Mercury	1/14/11	1/26/11	1/26/11
<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>		Wichdity		1/20/11	1/20/11
		Chlorine		1/21/11	1/25/11
				2,22,22	1,20,11
110114014-010	SOLID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Chlorine		1/21/11	1/25/11
110114014-011	SOLID	ICP	1/14/11	1/20/11	1/26/11
		Mercury	,	1/26/11	1/26/11
		Chlorine		1/21/11	1/25/11
110114014-012	SOLID	ICP	1/14/11	1/20/11	1/26/11
		Метситу	1	1/26/11	1/26/11
	1	Chlorine		1/21/11	1/25/11



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Case Narrative

Client: Norlite - MACT/CPT

Case: NO 1101

SDG: LLGF-C1A-R1

Sample ID	<u>Laboratory Sample ID</u>	Date Received	<u>VTSR</u>	<u>Matrix</u>
LLGF-C1RT-R1	110114014-001	01/14/11	10:21	Liquid
LLGF-C1RT-R2	110114014-002	01/14/11	10:21	Liquid
LLGF-C1RT-R3	110114014-003	01/14/11	10:21	Liquid
LLGF-C1A-R1	110114014-004	01/14/11	10:21	Liquid
LLGF-C1A-R2	110114014-005	01/14/11	10:21	Liquid
LLGF-C1A-R3	110114014-006	01/14/11	10:21	Liquid
Shale-C1RT-R1	110114014-007	01/14/11	10:21	Solid
Shale-C1RT-R2	110114014-008	01/14/11	10:21	Solid
Shale-C1RT-R3	110114014-009	01/14/11	10:21	Solid
Shale-C1A-R1	110114014-010	01/14/11	10:21	Solid
Shale-C1A-R2	110114014-011	01/14/11	10:21	Solid
Shale-C1A-R3	110114014-012	01/14/11	10:21	Solid

The liquid waste and solid samples were reported as is (assumed 100 % solids) for all analyses.

Inorganics – Total Metals (Liquid)

- 1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.
- 2) The element Beryllium had results below the method detection limits (MDL). A LLGF sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/18/10. The results of this MDL are provided after this case narrative. All results for the LLGF samples for Beryllium use the value from the MDL for the reporting limit.
- 3) Analysis for Mercury was performed using two different digestion procedures. The first procedure used EPA Method 7471. The second procedure used a portion of the Metals digestate from EPA 3050 followed by EPA Method 7470 (Labeled with a "B" at the end of the sample name on the data forms).



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- 4) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.
- 5) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Cadmium, Copper, Lead, Nickel and Zinc for sample LLGF-C1RT-R1 (AES sample number 110114014-001) spiked at 3 times the MDL was outside the required 75-125 % limits. This was due to the level in the sample that was much higher than the level of the spike added. At the levels spiked accurate recovery is not possible. The digested spike recoveries for sample LLGF-C1RT-R1 (AES sample number 110114014-001) spiked at 2 times the sample concentration were all within the required 75-125 % limits.
- 6) The digested spike recovery for the element Mercury (SW-846 3050/7470) for LLGF-C1RT-R1 B (AES sample number 110114014-001) was within the required 75-125 % limits.
- 7) The recovery between sample LLGF-C1RT-R1 (AES sample number 110114014-001) and the duplicate sample for the element Arsenic was outside the required limits for sample duplication. This element is flagged with an "* " as required by the protocol.

Inorganics - Total Metals (Solid)

- 1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.
- 2) The elements Arsenic, Cadmium and Lead had results below the method detection limits (MDL). A Shale sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/16/10. The results of this MDL are provided after this case narrative. All results for the Shale samples for Arsenic, Cadmium and Lead use the value from the MDL for the reporting limit.
- 3) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.



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- 4) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Arsenic, Lead and Zinc for sample SHALE-C1RT-R2 (AES sample number 110114014-008) spiked at 3 times the MDL was outside the required 75-125 % limits. The digested spike recovery for the elements Arsenic and Lead for sample SHALE-C1RT-R2 (AES sample number 110114014-008) spiked at 2 times the sample concentration was outside the required 75-125 % limits. The results for these elements are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.
- 5) The digested spike recovery for the element Mercury for SHALE-C1RT-R1 (AES sample number 110114014-007) was within the required 75-125 % limits.
- 6) The element Copper for sample SHALE-C1RT-R2 (AES sample number 110114014-008) did not meet the serial dilution criteria of 10 %. This element is flagged with an "E" as required by the protocol. The "E" denotes an estimated value. This indicates a possible chemical or physical interference.

Inorganics

- 1) The samples were submitted for various physical characteristics. The Chlorine results were reported from the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples and by Bomb preparation method (ASTM D808) followed by both Ion Chromatography (EPA 9056) and Titration (EPA 9253) for the LLGF Samples. The analysis for Titration (EPA 9253) for the LLGF Samples was sub-contracted to Certified Environmental Laboratory for analysis. Copies of the data for this sub-contracted analysis is presented after the raw data for analysis conducted by Adirondack Environmental Services.
- 2) The Bomb preparation blank for Chlorine was an accurately weighed amount of Iso-octane carried through the entire Bomb preparation and sample analysis. The ratio of the blank result versus the amount of Iso-octane added for the sample preparation was subtracted from the results. The Shale samples were the only samples that had the Iso-octane added during preparation since these samples would not ignite on their own.
- 3) Peak area was used to calculate all Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples appearing in this data package.
- 4) Retention time windows for Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples use +/- 3 times the standard deviation of the standards about the mean retention time.



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- 5) A Method Detection Limit (MDL) study was performed for Chlorine using the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples. The results of this MDL are provided after this case narrative.
- 6) Density was performed at ambient temperature.
- 7) Sample LLGF-C1A-R3 (AES sample number 110114014-006) was used for the matrix spike for Chlorine on the LLGF samples. The recovery for Chlorine was within acceptable limits. The recovery for the Chlorine spike by ASTM 808/9056 was 99 %. The recovery for the Chlorine spike by ASTM 808/9253 was 120 %.
- 8) Sample Shale-C1A-R3 (AES sample number 110114014-012) was used for the pre-preparation matrix spike for Chlorine on the Shale samples. This spike was added prior to the bomb preparation step. The recovery for EPA Method 5050/9056 was 84 %.
- 9) Sample LLGF-C1A-R3 (AES sample number 110114014-006) was used for the duplicate for the LLGF samples. All recoveries were within required limits.
- 10) Sample Shale-C1A-R3 (AES sample number 110114014-012) was used for the pre-preparation duplicate for Chlorine on the Shale samples. All recoveries were within required limits.
- 11) The following lists the analyses and the units in which the results are reported.

<u>Analyte</u>	Reporting Units
% Ash	%
Heating Value	btu/lb
Chlorine (5050/9056 and ASTM D808/9056)	mg/Kg
Chlorine (ASTM D808/9253)	mg/K.g
Density	g/ml

"I certify that this data package is in compliance with the terms and conditions of the protocol, both technically and for completeness, to the best of my knowledge, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Laboratory Manager

Date: $\frac{2/10/11}{2}$

Albany, NY

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-1-

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

LLGF-C1A-R1

Lab Name: Adironda	ck Environmental	Contract: 2010 MACT C	PŢ
Lab Code: AES	Case No.: NO 110	O1 SAS No.:	SDG No.: LLGF-C1A-R1
Matrix (soil/water):	SOIL	Lab Sample ID:	110114014-004A
Level (low/med):	LOW	Date Received:	1/14/2011
% Solids: 100	_	,	

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

CAS No.	Analyte	Concentration	С	Õ	м
7440-38-2	Arsenic	41.0	1	*	P
7440-41-7	Beryllium	0.22	U	1	P
7440-43-9	Cadmium	56.8	1	1	P
7440-47-3	Chromium	210	T	1	P
7440-50-8	Copper	1010		1	P
7439-97-6	Mercury	0.30	1		CV
7439-92-1	Lead	161	1	1	P
7440-02-0	Nickel	460	T	[P
7440-66-6	Zinc	1610	1	1	P

Color Before:	 Clarity Before:		Texture:	
Color After:	 Clarity After:		Artifacts:	
Comments:				
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Form I - IN

EPA SAMPLE NO. TAGE-C1A-R1 B

							Į.	LIGE-CIA-RI B
Lab Name:	Adironda	ck Environment	al Contra	ect: 2010 MACT	CPI	<u></u>		
Lab Code:	AES	Case No.:	NO 1101 SA	S No.:	_	SDG No	o.:	LLGF-C1A-R1
Matrix (so:	il/water):	SOIL		Lab Sample ID:		11011	4014	-004A
Level (low,	/med):	LOW		Date Received:		1/14/	2011	
% Solids:	0.0	_						
		Concentrati	on Units (ug/L c	r mg/kg dry weigh	t):		MG/	KG
		CAS No.	Analyte	Concentration	С	Õ	М	
		7439-97-6	Mercury	0.15			CV]
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		• •						
Color Be	fore:	cı	larity Before:		Te	xture	:	· · · · · · · · · · · · · · · · · · ·
Color Af	ter:	C:	larity After:		Aı	tifact	ts:	

Form I - IN

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Comments:

EPA SAMPLE NO.

LLGF-C1	LA-R2
LLGF-C3	

Lab Name:	Adirondack	Environment	al Co	ntract:	2010 MACT CP	<u> </u>	
Lab Code:	AES	Case No.:	NO 1101	SAS No.:		SDG No.:	LLGF-C1A-R1
Matrix (soi	1/water):	SOIL		Lab	Sample ID:	110114014	-005A
Level (low/	med): <u>LO</u>	W		Dat	e Received:	1/14/2011	

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

CAS No.	Analyte	Concentration	С	Q	М
7440-38-2	Arsenic	46.9	 	*	P
7440-41-7	Beryllium	0.22	שן]	P
7440-43-9	Cadmium	45.9	1	Ī	P
7440-47-3	Chromium	166	1	1	P
7440-50-8	Copper	1210	1		P
7439-97-6	Mercury	0.38	Ī	[CV
7439-92-1	Lead	181			P
7440-02-0	Nickel	486			P
7440-66-6	Zinc	1630	1		P

Color Before:	<u></u>	Clarity Before:	\	Texture:	
Color After:		Clarity After:		Artifacts:	
Comments:					

Form I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

•						r	LGF-C1A-R2 B
Lab Name: Adirond	ack Environmen	tal Cont	ract: 2010 MACT	CPT			
Lab Code: AES	Case No.:	NO 1101 s	AS No.:		SDG No	·.:	LLGF-C1A-R1
Matrix (soil/water):	SOIL		Lab Sample ID	:	11011	4014-	-005A
Level (low/med):	TOM		Date Received	:	1/14/	2011	
% Solids: 0.0							
	Concentrat	ion Units (ug/L	or mg/kg dry weigh	ıt):		MG/K	G
	CAS No.	Analyte	Concentration	С	Q	м	
	7439-97-6	Mercury	0,17	+		cv	

Color Before:		Clarity Before:	 Texture:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Color After:		Clarity After:	 Artifacts:	
Comments:				
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Form I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

LLGF-Cla-R3	
THE CTT IV	

Lab Name:	Adirondack	Environment	al Cor	ntract: 2010	MACT CPT	<u> </u>	
Lab Code:	AES	Case No.:	NO 1101	SAS No.:	\$D	G No.:	LLGF-C1A-R1
Matrix (soi)	l/water):	SOIL		Lab Sampl	e ID: <u>11</u>	0114014	-006A
Level (low/	med): LOV	1		Date Rece	ived: <u>1/</u>	14/2011	
% Solids:	100						

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

CAS No.	Analyte	Concentration	С	Q	М
7440-38-2	Arsenic	37.4	-	*	P
7440-41-7	Beryllium	0.22	U	1	P
7440-43-9	Cadmium	45.9			P
7440-47-3	Chromium	183		1	P
7440-50-8	Copper	1220		Ī	P
7439-97-6	Mercury	0.32	Ī		cv
7439-92-1	Lead	168			P
7440-02-0	Nickel	554		l	P
7440-66-6	Zinc	1660		1	P

Color Before:		Clarity Before:	<u> </u>	Texture:	
Color After:	<u></u>	Clarity After:		Artifacts:	
Comments:					
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Form I - IN

EPA SAMPLE NO.

Lab Name: 2	Adirondac	k Environment	al Cont	tract: 2	2010 MACT	CPI	L		LIGE-CIA-R3 B
Lab Code:	AES	Case No.:	NO 1101	SAS No.:		_	SDG N	o.:	LLGF-C1A-R1
Matrix (soil,	/water):	SOIL		Lab	Sample ID:		11011	4014	-006A
Level (low/me	ed):	LOW		Date	Received:		1/14/	2011	· · · · · · · · · · · · · · · · · · ·
% Solids: (0.0								
		Concentrati	on Units (ug/I	or mg/kg	dry weigh	t) :		MG/I	KG
		CAS No.	Analyte	Concen	tration	С	Q	м	
	j	7439-97-6	Mercury	1	0.18			CV	
	1								

Color Before:	***************************************	Clarity Before:	 Texture:	
Color After:		Clarity After:	 Artifacts:	
Comments:				
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Form I - IN

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EPA SAMPLE NO. LLGF-C1RT-R1

Lab Name:	Adirondack	Environmental	<u>1</u>	Contract:	2010 MACT CP	r	
Lab Code:	AES	Case No.:	NO 1101	SAS No.:		SDG No.:	LLGF-C1A-R1
Matrix (soi	l/water):	SOIL		Lab	Sample ID:	110114014	-001A
Level (low/	med): <u>LO</u>	w		Dat	e Received:	1/14/2011	
% Solids:	100						

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

			_	T	1
CAS No.	Analyte	Concentration	С	Q	М
7440-38-2	Arsenic	31.0	1	*	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	36.8	1	[P
7440-47-3	Chromium	149	T		P
7440-50-8	Copper	1480	1	1	P
7439-97-6	Mercury	0.24	1		cv
7439-92-1	Lead	107			P
7440-02-0	Nickel	1390	T		P
7440-66-6	Zinc	2070	1		P

Color Before:		Clarity Before:		Texture:	
Color After:		Clarity After:		Artifacts:	
Comments:		·····		VIII 22 20 20 10 10 10 10 10 10 10 10 10 10 10 10 10	

Form I - IN

EPA SAMPLE NO.

	·					Γ	L	LGF-C1RT-R1 B	
Lab Name:	Adirondac	k Environmenta	al Contra	ct: <u>2010 MAC</u>	CT CP	<u> </u>			
Lab Code:	AES	Case No.:	NO 1101 SAS	No.:		SDG No	o :	LLGF-C1A-R1	-
Matrix (soi	1/water):	SOIL	***************************************	Lab Sample I	īD:	11011	4014	-001A	
Level (low/	\mathtt{med}): $\underline{\mathtt{L}}$	WO		Date Receive	ad:	1/14/	<u>/2011</u>		
% Solids:	0.0								
		Concentratio	on Units (ug/L or	r mg/kg dry wei	lght):		MG/I	KG	
		CAS No.	Analyte	Concentration	С	Õ	М		
	į	7439-97-6	Mercury	0.14	4		CV	<u> </u>	
	_		-					-	

Color Before:		Clarity	Before:		Texture:	
Color After:		Clarity	After:		Artifacts:	
Comments:						
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Form I - IN

-1-

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

LLGF-C1RT-	·R2

Lab Name:	Adi rondack	Environment	al Co	ntract:	2010 MACT CP	т Т	,
			NO 1101		ZOIO IMOL OL	 -	TION OIN DI
Lab Code:	AES	Case No.:	NO 1101	SAS No.:		SDG No.:	LLGF-C1A-R1
Matrix (soi	l/water):	SOIL		Lab	Sample ID:	110114014	1-002A
Level (low/	med): LO	<u> </u>		Dat	e Received:	1/14/2011	
% Solids:	100						

Concentration Units (ug/L or mg/kg dry weight):

501145. <u>100</u>

MG/KG

CAS No.	Analyte	Concentration	С	Q	М
7440-38-2	Arsenic	26.5		*	P
7440-41-7	Beryllium	0.22	ט		P
7440-43-9	Cadmium	36.4			P
7440-47-3	Chromium	138]	J	P
7440-50-8	Copper	1450			P
7439-97-6	Mercury	0.22	1		CV
7439-92-1	Lead	111	į]	P
7440-02-0	Nickel	1350	1		P
7440-66-6	Zinc	2040	i		P

Color Before:	Clarity Before:		Texture:	
Color After:	 Clarity After:		Artifacts:	
Comments:	 		·	
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Form I - IN

EPA SAMPLE NO.

LLGF-Clrr-R2	з І

						- 1	L	LGF-C1RT-R2 B
Lab Name:	Adirondad	ck Environment	al Contr	ract: 2010 MACT	CP1	<u>-</u>		
Lab Code:	AES	Case No.:	<u>NO 1101</u> s	AS No.:		SDG No	. :	LLGF-C1A-R1
Matrix (soi:	l/water):	SOIL	 .	Lab Sample ID	:	11011	4014	-002A
Level (low/	med):	LOW		Date Received	:	1/14/	2011	
% Solids:	0.0	,						
Concentration Units (ug/L or mg/kg dry weight): MG/KG							CG.	
		CAS No.	Analyte	Concentration	С	Q	м	Ì
		7439-97-6	Mercury	0.13			cv	
						,		-

Color Before:	w	Clarity Before:	 Texture:	
Color After:		Clarity After:	 Artifacts:	
Comments:			 	
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Form I - IN

EPA SAMPLE NO.

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T.T.GF-C1RT-R	.5
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Lab Name:	Adirondack	Environmenta	11 Cor	tract:	2010 MACT CP	r	
Lab Code:	AES	Case No.:	NO 1101	SAS No.:		SDG No.:	LLGF-C1A-R1
Matrix (soi	l/water):	SOIL		Lab	Sample ID:	110114014	-003A
Level (low/	ned): <u>LC</u>	DW		Date	e Received:	1/14/2011	
% Solids:	100						

Concentration Units (ug/L or mg/kg dry weight):

* Solids: 100

MG/KG

CAS No.	Analyte	Concentration	С	Q	М
7440-38-2	Arsenic	22.7	1	*	P
7440-41-7	Beryllium	0.22	U]	P
7440-43-9	Cadmium '	24.2	1		P
7440-47-3	Chromium	153	1	1	P
7440-50-8	Copper	1280	1	<u> </u>	P
7439-97-6	Mercury	0.25	1	1	cv
7439-92-1	Lead	115	1	[P
7440-02-0	Nickel	952	1	ĺ	P
7440-66-6	Zinc	1780	Ī	[P

Color Before:	 Clarity Before:	Texture:	
Color After:	 Clarity After:	 Artifacts:	
Comments:	 	 	

Form I - IN

EPA SAMPLE NO.

LLGF-C1RT-R3	В	

								L	LGF-C1RT-R3 B
Lab Name:	Adironda	ck Environment	al Cont	ract:	2010 MACT	CPi	<u>-</u>		· · · · · · · · · · · · · · · · · · ·
Lab Code:	AES	Case No.:	NO 1101 s	AS No.:			SDG N	o.:	LLGF-C1A-R1
Matrix (soi	l/water):	SOIL	***************************************	Lab	Sample ID:		11011	4014	-003A
Level (low/	med):	LOW		Date	a Received:		1/14/	2011	
% Solids:	0.0								
		Concentrati	on Units (ug/L	or mg/kg	g dry weigh	t):		MG/I	KG
		CAS No.	Analyte	Conce	ntration	С	Q	м	
		7439-97-6	Mercury		0.15]		cv	!
									-

Color Before:	Clarity Before:	 Texture:	
Color After:	 Clarity After:	 Artifacts:	
Comments:			

Form I - IN

EPA SAMPLE NO.

Lab Name:	Adirondad	ek Environmenta	al Cor	ntract:	2010 MACT CP		
Lab Code:	AES	Case No.:	NO 1101	SAS No.:		SDG No.:	LLGF-C1A-R1
Matrix (soi	l/water):	SOIL		Lab	Sample ID:	110114014-	-010A
Level (low/	med):	LOW		Date	e Received:	1/14/2011	
	•						

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

	····	·		····	,
CAS No.	Analyte	Concentration	С	Q	М
7440-38-2	Arsenic	11.96	ט	N	P
7440-41-7	Beryllium	1.8	Ī		P
7440-43-9	Cadmium	0.31	שן	1	P
7440-47-3	Chromium	73.1			P
7440-50-8	Copper	68.6		E	P
7439-97-6	Mercury	0.01	U		CV
7439-92-1	Lead	11.58	α	N	P
7440-02-0	Nickel	43.4		1	P
7440-66-6	Zinc	134			P

Color Before:	,	Clarity Before:	 Texture:	
Color After:		Clarity After:	Artifacts:	
Comments:				, <u></u>
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Form I - IN

EPA SAMPLE NO.

SHA	LE~C	LA-I	32

						l		
Lab Name:	Adirondack	Environment	al Co	ntract:	2010 MACT CP	T		
Lab Code:	AES	Case No.:	NO 1101	SAS No.:		SDG No.:	LLGF-C1A-R1	
Matrix (soi	l/water):	SOIL		Lab	Sample ID:	11011401	4-011A	
Level (low/	med): <u>LO</u>	<u>w</u>		Dat	e Received:	1/14/201	1	
2 Colidar	100							

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

<u> </u>			-,		
CAS No.	Analyte	Concentration	С	Q	М
7440-38-2	Arsenic	11.96	υ	N	P
7440-41-7	Beryllium	1.7	1]	₽
7440-43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	74.9		Ī	₽
7440-50-8	Copper	43.9	Ì	E	P
7439-97-6	Mercury	0.01	บ	Ï	cv
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	41.0		Ì	P
7440-66-6	Zinc	100	T		P

Color Before:	 Clarity Before:	 Texture:	·
Color After:	 Clarity After:	Artifacts:	
Comments:	 		
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Form I - IN

EPA SAMPLE NO.

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CV

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								SHALE-C1A-R3
Lab Name:	Adironda	ck Environment	al Contra	ct: <u>2010 MACT</u>	CP'	<u> </u>	· · · · · · · · · · · · · · · · · · ·	
Lab Code:	AES	Case No.:	NO 1101 SAS	No.:		SDG N	٥.:	LLGF-C1A-R1
Matrix (soi	1/water):	SOIL		Lab Sample ID:		11011	4014	-012A
Level (low/	med):	LOW		Date Received:		1/14/	2011	
% Solids:	100	-			•			
		Concentratio	on Units (ug/L o	r mg/kg dry weigh	t):		MG/E	ςG
		CAS No.	Analyte	Concentration	С	Q	М	
		7440-38-2	Arsenic	11.96	Ū	N	P	
		7440-41-7	Beryllium	1.7	1	<u> </u>	P	
		7440-43-9	Cadmium	0.31	U	1	l P	ĺ

59.1

11.58

43.1

64.4

42.3

0.01 U

M D

E

Chromium

Copper

Nickel

Lead

Zinc

Mercury

7440-47-3

7440-50-8

7439-97-6

7439-92-1

7440-02-0

7440-66-6

Color Before:	 Clarity Before:	····	Texture:	
Color After:	 Clarity After:		Artifacts:	
Comments:				

Form I - IN

-1-

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

SHALE-CIRT-RI

Lab Name:	Adirondack	Environmenta	al Cor	tract:	2010 MACT CP	<u> </u>	
Lab Code:	AES	Case No.:	NO 1101	SAS No.:	 	SDG No.:	LLGF-C1A-R1
Matrix (soil	/water):	SOIL		Lab	Sample ID:	110114014-	-007A
Level (low/m	ned): <u>LO</u>	VT		Dat	e Received:	1/14/2011	

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

CAS No.	Analyte	Concentration	С	Q	М
7440-38-2	Arsenic	11.96	บ	N	P
7440-41-7	Beryllium	1.8	J		P
7440-43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	63.8	Ī		P
7440-50-8	Copper	38.4	1	E	P
7439-97-6	Mercury	0.01	ը	1	cv
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	42.6	1		P
7440-66-6	Zinc	71.1	1		P

Color Before:		Clarity Before:		Texture:	
Color After:		Clarity After:		Artifacts:	
Comments:	· · · · · · · · · · · · · · · · · · ·				
			· · · · · · · · · · · · · · · · · · ·		

Form I - IN

EPA SAMPLE NO.

SHALE-C1RT-R2	

Lab Name:	Adirondack	Environmenta	al Con	ntract:	2010 MACT CP	r	
Lab Code:	AES	Case No.:	NO 1101	SAS No.:		SDG No.:	LLGF-C1A-R1
Matrix (soi	l/water):	soil		Lab	Sample ID:	110114014	-008A
Level (low/	med): LOW	<u> </u>		Dat	e Received:	1/14/2011	<u></u>

100 % Solids:

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

			1	T	1
CAS No.	Analyte	Concentration	С	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.7	1		P
7440~43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	72.2	1		P
7440-50-8	Copper	43.4	1	E	P
7439-97-6	Mercury	0.02	B		cv
7439-92-1	Lead	11.58	מ	N	P
7440-02-0	Nickel	39.4			P
7440-66-6	Zinc	87.1			P

Color Before:		Clarity Before:		Texture:	
Color After:		Clarity After:	-	Artifacts:	
Comments:	· · · · · · · · · · · · · · · · · · ·		·		
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Form I - IN

EPA SAMPLE NO.

MG/KG

M

P

P

		•					SHALE-C1RT-R3	
Lab Name:	Adirondack	Environmenta	<u>al</u>	Contract:	2010 MACT CE	?T		
Lab Code:	AES	Case No.:	NO 1101	SAS No.:		SDG No.:	LLGF-C1A-R1	
Matrix (soi	.l/water):	SOIL		Lab	Sample ID:	110114014	l-009A	,
Level (low/	med): <u>LC</u>	₩		Dat	e Received:	1/14/2011		
% Solids:	100							

 CAS No.
 Analyte
 Concentration
 C
 Q

 7440-38-2
 Arsenic
 11.96
 U
 N

 7440-41-7
 Beryllium
 1.8
 I

Concentration Units (ug/L or mg/kg dry weight):

₽ 7440-43-9 Cadmium 0.31 U P 7440-47-3 Chromium 72.9 P 7440-50-8 Copper 40.2 P Е 7439-97-6 Mercury 0.01 U CV 7439-92-1 Lead 11.58 U N P 7440-02-0 40.7 Nickel P

141

7440-66-6

Zinc

Color Before:		Clarity Before:	 Texture:	
Color After:		Clarity After:	 Artifacts:	
Comments:	·····		 	
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Form I - IN

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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1A-R1

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1101

SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

110114014-004

Level (Low/Med):

Low

Date Received:

1/14/11

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	O	Q	Method
Heating Value	9605			ASTM D240-76
Ash	7.38			ASTM D482
Total Chlorine (IC)	17490			ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	17500			ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity		1		ASTM D445
Density @ 22 C	0.9899			ASTM D1298
		<u> </u>		
				
		-		

Comments	 		

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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1A-R2

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1101

SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

110114014-005

Level (Low/Med):

Low

Date Received:

1/14/11

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value	9268			ASTM D240-76
Ash	7.71			ASTM D482
Total Chlorine (IC)	16140			ASTM D808/9056
Flash Point			*******	EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	16070			ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9869			ASTM D1298

Comments			
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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1A-R3

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1101 SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

110114014-006

Level (Low/Med):

Low

Date Received:

1/14/11

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value	9228			ASTM D240-76
Ash	7.71			ASTM D482
Total Chlorine (IC)	16010			ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	16830			ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9902			ASTM D1298
		I	I	

Comments		

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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1RT-R1

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1101

SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

110114014-001

Level (Low/Med):

Low

Date Received:

1/14/11

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value	9369			ASTM D240-76
Ash	5.57			ASTM D482
Total Chlorine (IC)	16240			ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	16030			ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9865			ASTM D1298
				<u> </u>

Comments		

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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1RT-R2

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

110114014-002

Level (Low/Med):

Low

Date Received:

1/14/11

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value	9439			ASTM D240-76
Ash	5.64			ASTM D482
Total Chlorine (IC)	16700			ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	16730			ASTM D808/9253
Total Cyanide			****	SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9104			ASTM D1298
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Comments			
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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1RT-R3

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1101

SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

110114014-003

Level (Low/Med):

Low

Date Received:

1/14/11

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value	9264			ASTM D240-76
Ash	5.63			ASTM D482
Total Chlorine (IC)	17130			ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	17680			ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9797			ASTM D1298
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Comments	 	······································	 	 	

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CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1A-R1

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1101

SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

110114014-010

Level (Low/Med):

Low

Date Received:

1/14/11

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide	· · · · · · · · · · · · · · · · · · ·			SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298
		<u> </u>		

Comments	

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CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1A-R2

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.: NO 1101

SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Solid

Lab Sample ID:

110114014-011

Level (Low/Med):

Low

Date Received:

1/14/11

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value		11		ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments		

FORM I - CONV

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CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1A-R3

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1101

SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Solid

Lab Sample ID:

110114014-012

Level (Low/Med):

Low

Date Received:

1/14/11

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value	****			ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide			•	SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments	•			
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CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1RT-R1

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1101

SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Solid

Lab Sample ID:

110114014-007

Level (Low/Med):

Low

Date Received:

1/14/11

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

	<u> </u>			

Comments				
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CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1RT-R2

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1101

SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Solid

Lab Sample ID:

110114014-008

Level (Low/Med):

Low

Date Received:

1/14/11

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity	_			SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide	<u> </u>			SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298
				•

Comments		
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CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1RT-R3

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1101

SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

110114014-009

Level (Low/Med):

Low

Date Received:

1/14/11

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value	44 - C Marian			ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments		••	

FORM I - CONV

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SAMPLE NO.

0.128

11.8

•				LL	GF-C1RT-R1 BD	P
Lab Name: Adir	rondack Environ	ental Contra	act: 2010 MACT C	PT		
Lab Code: AES	Case No.	: <u>NO 1101</u> S	AS No.:	SDG No	.: LLGF-C1A	-R1
Matrix (soil/wate	er): SOIL	_	el (low/med): s for Duplicate:	LOW 100.0	-	
% Solids for Samp	ole: <u>0.0</u>	-	o TOT Dupitoate.	100.0		
	Concentrati	on Units (ug/L or	mg/kg dry weight)	: <u>M</u> G	KG .	
Analyte	Control Limit	Sample (S)	C. Duplic	rate (D)	C RPD	

0.144

Form VI - IN

ILM04.2

Mercury

SAMPLE NO.

LLGF-ClRT-R1DP	

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Case No.: NO 1101 SAS No.:

SDG No.: LLGF-C1A-R1

AES Matrix (soil/water):

Lab Code:

SOIL

Level (low/med):

% Solids for Sample:

100.0

% Solids for Duplicate:

100.0

LOW

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

	Concentration	TOIL OUTCO (GG/H OT MG/K)	, 1					
Analyte	Control Limit	Sample (S)	С	Duplicate (D)	С	RPD	Q	м
Arsenic		30.9718		47.7360		42.6	*	P
Beryllium		0.22	Ū	0.22	Ū			P
Cadmium		36.8413		37.6900		2.3		P
Chromium		149.2530		157.0795		5.1		P
Copper		1482.2330		1520.8860		2.6		P
Mercury		0.2420		0.2260		6.8		C/
Lead		107.1786		111.4653		3.9		P
Nickel		1391.6270		1397.6950		0.4		Р
Zinc		2068.7170		2124.7280		2.7		P

SAMPLE NO.

0.0120 ປ

CV

SHALE-C1RT-R1DP Lab Name: Adirondack Environmental Contract: 2010 MACT CPT Lab Code: Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1 AES Level (low/med): LOW Matrix (soil/water): SOIL % Solids for Duplicate: 100.0 % Solids for Sample: 100.0 MG/KG Concentration Units (ug/L or mg/kg dry weight): Control Analyte Limit Sample (S) С Duplicate (D) RPD

0.0120

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Form VI - IN

ILM04.2

Mercury

SAMPLE NO.

SHALE-C1RT-R2DP	

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

	Concentrat	ion units (ug/L or mg/k)	i ar	/ weight/.	1107				
Analyte	Control Limit	Sample (S)	n	Duplicate	(D)	C	RPD	Q	м
Arsenic		11.96	ם		11.96	U			P
Beryllium		1.7016			1.6982	В	0.2		P
Cadmium		0.31	ប		0.31	ט			Р
Chromium		72.2200		_	70.8385		1.9		P
Copper	B.2	43.4097			42.4342		2.3		P
Lead		11.58	Ū		11.58	U			P
Nickel	13.2	39.3845			37.9502		3.7		Р
Zinc		87.1394			81.7059		6.4		Р

6

DUPLICATES

LLGF-C1A-R3

LAB NAME:

Adirondack Environmental

CONTRACT:

LAB CODE:

AES

Case No.:

NO 1101

SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Liquid Waste

Level (Low/Med):

Low

% Solids for Sample:

0.0

% Solids for Duplicate:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

	Control							
Analyte	Limit							
	% R	Sample (S)	С	Duplicate (D)	С	% R	Q	M
Heating Value		9228		9183		0.5		
Ash		7.71		7.61		1.3		
Total Chlorine (IC)		16010		15910		0.6		
Flash Point								
Corrosivity								
Reactive Cyanide								
Reactive Sulfide								
Reactivity								
Total Chlorine (Titration)		16830		16310		3.1		
Total Cyanide								
Kinematic Viscosity								
Density @ 22 C		0.9902	ļ	0.9891	 	0.1		
				· · · · · · · · · · · · · · · · · · ·	╂			
			$oxed{oxed}$		<u> </u>			
			1		+	<u> </u>	-	
			\vdash		╁╌		\vdash	

Comments	This analysis was a pre-preparation duplicate.	

6

DUPLICATES

Shale-C1A-R3

LAB NAME:

Adirondack Environmental

CONTRACT:

LAB CODE:

AES

Case No.:

NO 1101

SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Solid

Level (Low/Med):

Low

% Solids for Sample:

0.0

% Solids for Duplicate:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Control Limit							;
	% R.	Sample (S)	C	Duplicate (D)	С	% R	Q	M
Heating Value								
Ash								
Total Chlorine (IC)		234	U	234	U	NC		
Flash Point								
Corrosivity								
Reactive Cyanide								
Reactive Sulfide								
Reactivity								
Total Chlorine (Titration)								
Total Cyanide								
Kinematic Viscosity								
Density @ 22 C								

Comments	This analysis was a pre-preparation duplicate.

SAMPLE NO.

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): Low

% Solids for Sample: 100.0

	Conc	entration Units (u	g/L (or mg/kg dry weight):	_MG/K	G	
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR) C	Spike Added (SA)	%R	ΩМ
Mercury	75 – 125	0.472	2	0.144	0.400	82.0	CV

Comments:

Form V (PART 1) - IN

SAMPLE NO.

LLGF-C1RT-R1MS	

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	€R	Q	м
Arsenic	75 - 125	46.7237		30.9718		16.234	97.0		P
Beryllium	75 - 125	0.7950	В	0.22	U	0.974	81.6		P
Cadmium	1	39.6202		36.8413	-	0.397	700		P
Chromium	75 - 125	193.8694	П	149.2530		44.733	99.7		P
Copper	1	1594.3720		1482.2330		19.481	576		P
Mercury	75 - 125	0.5500		0.2420		0.40	77.0		CZ
Lead	1	134.4662		107.1786	1	15.512	176		P
Nickel		1540.4090	Ī	1391.6270		11.183	1330		P
Zinc	1	2226.4570		2068.7170	1	34.993	451		Р

Comments:	

Form V (PART 1) - IN

SAMPLE NO.

LLGF-C1RT-R1MS2	
TILLECTRICKTMSZ	

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	90.6297	l i	30.9718		67.01	89.0		Ī
Beryllium		0.0521	ט	0.22	ט	0.00	0.0		I
Cadmium	75 - 125	108.7793		36.8413		74.46	96.6	<u> </u>	E
Chromium	75 - 125	414.4670		149.2530		294.12	90.2		E
Copper	75 - 125	4121.0430		1482.2330		2565.15	102.9		Ī
Lead	75 - 125	346.7920		107.1786		234.55	102.2		Ī
Nickel	75 - 125	3963.3970		1391.6270		2553.98	100.7		Ī
Zinc	75 - 125	5364.5200	1 1	2068.7170		4151.15	79.4		ļΪ

Comments:				
	·	 		

Form V (PART 1) - IN

SHALE-CIRT-RIMS
CT CPT

SAMPLE NO.

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Concentration Units (ug/L or mg/kg dry weight):

Matrix (soil/water): SOIL Low Low Low Low

% Solids for Sample: 100.0

_MG/KG___

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR) C	Spike Added ((SA)	%R	Q	м
Mercury	 7 5 – 125	0.3780)	0.0120 ט		0.40	94.5		CV

Comments:

Form V (PART 1) - IN

SAMPLE NO.

SHALE-C1RT-R2MS
SHALE-C1RT-R2MS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-RI

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	&R	Q	м
Arsenic	75 - 125	7.9362		11.96	บ	15.571	51.0	И	P
Beryllium	75 - 125	2.4308		1.7016		0.934	78.1	Ì	P
Cadmium	75 - 125	0.4156	в	0.31	σ	0.381	109.1	İ	₽
Chromium	75 - 125	108.0969		72.2200	i	42.907	83.6		P
Copper	75 - 125	61.1181		43.4097		18.685	94.8	<u> </u>	P
Lead	75 - 125	0.6678	ן ט	11.58	σ	14.879	0.0	И	₽
Nickel	75 - 125	48.3131		39.3845		10.727	83.2		₽
Zinc	75 - 125	108.0044		87.1394		33.564	62.2	И	P

Comments:			

Form V (PART 1) - IN

SAMPLE NO.

GWITE GIRE POMO	
SHALE-C1RT-R2MS2	

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

	Cond	entration Units (ug/I	or mg/kg dry weight	: (:	_MG/KG	<u> </u>		
Analyte	Control Limit %R	Spiked Sample Result (SSR)	Sample C Result (SR)	С	Spike Added (SA)	%R	Õ	м
Arsenic	75 - 125	11.3468	11.96	U	18.998	59.7	N	P
Beryllium	75 - 125	4.1932	1.7016		2.936	84.9		P
Cadmium	1	0.0846 E	0.31	υ	0.0	0.0		P
Chromium	75 - 125	154.1564	72.2200		93.264	87.9		P
Copper	75 - 125	137.3771	43.4097		79.447	118.3		P
Lead	75 - 125	61.5843	11.58	U	34.542	178.3	И	P
Nickel	75 - 125	103.1725	39.3845		69.085	92.3		Р
Zinc	75 - 125	235.3684	87.1394		138.169	107.3		P

Comments:	5

Form V (PART 1) - IN

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

LLGF-C1RT-	D12

Lab	Name:	Adirondack	Environmen	ntal	Contract:	2010 MAC	CT CPT	****	
Lab	Code:	AES	Case No.:	NO 1101	SAS No.:		SDG No.:	LLGF-C1A-R1	
Mati	cix (soi	l/water):	SOIL		Le	vel (low/m	ed): <u>LOW</u>		

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added(SA)	%R	Q	м
Arsenic		170.11		101.59		80.0	85.6		P
Beryllium		100.89		0.14	U	100.0	100.9		P
Cadmium		213.66		120.84		100.0	92.8		P
Chromium		865.69		489.55		400.0	94.0		₽
Copper		5345.53		4861.73		500.0	96.8		P
Lead		380.46		351.55		40.0	72.3		P
Nickel		5437.13		4564.54		1000.0	87.3		P
Zinc		7463.28		6785.39		1000.0	67.8		P

Comments:				

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

SHALE-C1RT-R2A

Lab Name:	Adirondack	Environme	ntal	Contract:	2010 MAC'I	CPT	
Lab Code:	AES	Case No.:	NO 1101	SAS No.:		SDG No.:	LLGF-C1A-R1
Matrix (soi	.l/water):	SOIL		Lev	el (low/me	d): LOW	

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Õ	м
Arsenic		49.33		1.50	υ	80.0	61.7		P
Beryllium		105.74		5.16		100.0	100.6		₽
Cadmium		95.65		0.13	υ	100.0	95.6		P
Chromium		630.40		219.12		400:0	102.8		P
Copper		657.07		131.70		500.0	105.1		P
Lead		24.12		1.93	σ	40.0	60.3		P
Nickel		1101.06		119.49		1000.0	98.2		P
Zinc		1266.39		264.38		1000.0	100.2		P

Comments:	 		

Form V (PART 2) - IN

5 SPIKE SAMPLE RECOVERY

LLGF-C1A-R3

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE:

AES

Case No.:

NO 1101

SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Liquid Waste

Level (Low/Med):

Low

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Control Limit % R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	% R	Q	М
Heating Value									
Ash									
Total Chlorine (IC)	75-125	20131		16012		4162	99		
Flash Point									
Corrosivity				•					
Reactive Cyanide									
Reactive Sulfide									
Reactivity									
Total Chlorine (Titration)	75-125	21840		16830		4162	120		
Total Cyanide									
Kinematic Viscosity									
Density @ 22 C									
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Comments	This analysis was a pre-preparation spike. The spike was added before bombing.	

FORM V (Part 1) - CONV

:00052

5

SPIKE SAMPLE RECOVERY

Shal	e-C	1 A _R	3

LAB NAME: Adirondack Environmental

CONTRACT:

Shale-CIA-R3

LAB CODE:

AES

Case No.:

NO 1101

SAS No.:

SDG No.: LLGF-C1A-R1

Matrix (soil/water):

Solid

Level (Low/Med):

Low

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Control Limit % R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	% R	Q	М
Heating Value									
Ash									
Total Chlorine (IC)	75-125	2711		234	U	3213	84		
Flash Point									
Corrosivity									
Reactive Cyanide		•							
Reactive Sulfide									
Reactivity									
Total Chlorine (Titration)									
Total Cyanide									
Kinematic Viscosity									
Density @ 22 C									

Comments	This analysis was a pre-preparation spike. The spike was added before bombing.	
		_

FORM V (Part 1) - CONV

BLANKS

Lab Name:	Adirondack En	vironmenta	al	Contra	ict: <u>20</u>	010 MACT	CPT		
Lab Code:	AES	Case No.:	NO 1101	SAS No.:		si	G No.:	LLGF-C1A-R1	
Preparatio	n Blank Matrix	(soil/water	s): <u>SOIL</u>						
Preparatio	n Blank Concent	ration Unit	s (ug/L or mg,	/kg):	MG/KG	;			

	Initial Calib. Blank		Riank (ng/T3) 11						Preparation Blank	
Analyte	(ug/L)	С	1	C	2	С	3	С	С	M
Arsenic	1.5	U	1.5	ש	1.5	U	1.5	ี ซ	0.150 บ	P
Beryllium	0.1	U	0.1	Ü	0.1	U	0.1	ט	0.013 U	₽
Cadmium	0.1	U	0.2	В	0.2	В	0.3	В	0.090 B	P
Chromium	4.7	ΰ	4.7	ט	4.7	U	4.7	ប	0.470 U	P
Copper	2.5	Ū	2.5	[ט	2.5	ַ	2.5	ע	0.250 U	P
Mercury	0.06	Ū	0.06	σ	0.06	U	0.06	ט	0.012 U	CV
Lead	1.9	U	1.9	מ	1.9	ש	1.9	ט	0.190 U	P
Nickel	0.6	U	0.6	ซ	0.6	U	0.6	บ	1.896 B	P
Zinc	0.8	ט	0.8	U	0.8	ับ	0.8	ט	0.736 B	P

BLANKS

Lab Name:	Adirondack E	nvironmental		_ Contract:	2010 MACT CPT	
Lab Code:	AES	Case No.: N	<u>0 1101</u> s	SAS No.:	SDG No.:	LLGF-C1A-R1
Preparatio	n Blank Matrix	(soil/water):	SOIL			
Preparatio	n Blank Concen	tration Units	(ua/L or ma/)	sσ): 'MG	E/KG	

	Initial Calib. Blank (ug/L)			Co	ntinuing Cal Blank (ug/		ratio	on		Preparation Blank	·	
Analyte	(49, 27	С	1	С	2	С		3	С	ŀ	С	M
Arsenic			1.5	U						0.150	บ	Р
Beryllium			0.1	ַ						0.013	ט	P
Cadmium			0.1	В						0.045	В	P
Chromium			4.7	ן ש	-					0.470	U	P
Copper			2.5	ן ט			<u></u>			0.250	υ	P
Mercury			0.06	ן ט	0.06	บ				0.012	U	CV
Lead			1.9	ן ט						0.190	Ū	P
Nickel			0.6	บ						0.304	В	P
Zinc	1		0.8	ប						0.377	В	P

Form III - IN

U.S. EPA - CLP

3 BLANKS

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE:

AES

Case No.: NO 1101

SAS No.:

SDG No.:

LLGF-C1A-R1

Preparation Blank Matrix:

Liquid

Preparation Blank Concentration Units:

mg/Kg

	Initial			Cont	inuing C	alibra	ation		Prep).	
Analyte	Calib.								Blan	k	Method
	Blank(ug/L)	С	1	C	2	C	3	C		С	
Heating Value											ASTM D240-76
Ash											ASTM D482
Total Chlorine (IC)	1000	U	1000	U	1000	U	1000	U	100	U	EPA 5050/9056
Flash Point											EPA 1010
Corrosivity											SW-846 7.2.2
Reactive Cyanide											SW-846 7.3.3
Reactive Sulfide											SW-846 7.3.4
Reactivity											SW-846 7.3.2.1
Total Chlorine (Titration)									100	U	ASTM D808/9253
Total Cyanide											SW-846 9012
Kinematic Viscosity											ASTM D445
Density @ 22 C											ASTM D1298
	,										

Comments		

FORM III - CONV

U.S. EPA - CLP

3 BLANKS

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE:

AES

Case No.: NO 1101

SAS No.:

SDG No.:

LLGF-C1A-R1

Preparation Blank Matrix:

Liquid

Preparation Blank Concentration Units:

mg/Kg

Analyte	Initial Calib.		aven	Cont	inuing (Calibra	ation		Prep. Blank	Method
Timaryto	Blank(ug/L)	С	1	С	2	C	3	С	C	Method
Heating Value										ASTM D240-76
Ash										ASTM D482
Total Chlorine (IC)			1000	U						EPA 5050/9056
Flash Point										EPA 1010
Corrosivity										SW-846 7.2.2
Reactive Cyanide										SW-846 7.3.3
Reactive Sulfide				,						SW-846 7.3.4
Reactivity										SW-846 7.3.2.1
Total Chlorine (Titration)										ASTM D808/9253
Total Cyanide										SW-846 9012
Kinematic Viscosity										ASTM D445
Density @ 22 C				,						ASTM D1298
								\vdash		
								\vdash		

Comments		

FORM III - CONV

SAMPLE DATA PACKAGE



314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891 www.adirondackenvironmental.com

Case Narrative

Client: Norlite - MACT/CPT

Case: NO 1101

SDG: LLGF-C1A-R1

Sample ID	Laboratory Sample ID	Date Received	<u>VTSR</u>	<u>Matrix</u>
LLGF-C1RT-R1	110114014-001	01/14/11	10:21	Liquid
LLGF-C1RT-R2	110114014-002	01/14/11	10:21	Liquid
LLGF-C1RT-R3	110114014-003	01/14/11	10:21	Liquid
LLGF-C1A-R1	110114014-004	01/14/11	10:21	Liquid
LLGF-C1A-R2	110114014-005	01/14/11	10:21	Liquid
LLGF-C1A-R3	110114014-006	01/14/11	10:21	Liquid
Shale-C1RT-R1	110114014-007	01/14/11	10:21	Solid
Shale-C1RT-R2	110114014-008	01/14/11	10:21	Solid
Shale-C1RT-R3	110114014-009	01/14/11	10:21	Solid
Shale-C1A-R1	110114014-010	01/14/11	10:21	Solid
Shale-C1A-R2	110114014-011	01/14/11	10:21	Solid
Shale-C1A-R3	110114014-012	01/14/11	10:21	Solid

The liquid waste and solid samples were reported as is (assumed 100 % solids) for all analyses.

Inorganies – Total Metals (Liquid)

- 1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.
- 2) The element Beryllium had results below the method detection limits (MDL). A LLGF sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/18/10. The results of this MDL are provided after this case narrative. All results for the LLGF samples for Beryllium use the value from the MDL for the reporting limit.
- 3) Analysis for Mercury was performed using two different digestion procedures. The first procedure used EPA Method 7471. The second procedure used a portion of the Metals digestate from EPA 3050 followed by EPA Method 7470 (Labeled with a "B" at the end of the sample name on the data forms).



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- 4) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.
- 5) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Cadmium, Copper, Lead, Nickel and Zinc for sample LLGF-C1RT-R1 (AES sample number 110114014-001) spiked at 3 times the MDL was outside the required 75-125 % limits. This was due to the level in the sample that was much higher than the level of the spike added. At the levels spiked accurate recovery is not possible. The digested spike recoveries for sample LLGF-C1RT-R1 (AES sample number 110114014-001) spiked at 2 times the sample concentration were all within the required 75-125 % limits.
- 6) The digested spike recovery for the element Mercury (SW-846 3050/7470) for LLGF-C1RT-R1 B-(AES sample number 110114014-001) was within the required 75-125 % limits.
- 7) The recovery between sample LLGF-C1RT-R1 (AES sample number 110114014-001) and the duplicate sample for the element Arsenic was outside the required limits for sample duplication. This element is flagged with an "* " as required by the protocol.

Inorganics – Total Metals (Solid)

- 1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.
- 2) The elements Arsenic, Cadmium and Lead had results below the method detection limits (MDL). A Shale sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/16/10. The results of this MDL are provided after this case narrative. All results for the Shale samples for Arsenic, Cadmium and Lead use the value from the MDL for the reporting limit.
- 3) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.



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- 4) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Arsenic, Lead and Zinc for sample SHALE-C1RT-R2 (AES sample number 110114014-008) spiked at 3 times the MDL was outside the required 75-125 % limits. The digested spike recovery for the elements Arsenic and Lead for sample SHALE-C1RT-R2 (AES sample number 110114014-008) spiked at 2 times the sample concentration was outside the required 75-125 % limits. The results for these elements are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.
- 5) The digested spike recovery for the element Mercury for SHALE-C1RT-R1 (AES sample number 110114014-007) was within the required 75-125 % limits.
- 6) The element Copper for sample SHALE-C1RT-R2 (AES sample number 110114014-008) did not meet the serial dilution criteria of 10 %. This element is flagged with an "E" as required by the protocol. The "E" denotes an estimated value. This indicates a possible chemical or physical interference.

Inorganics

- 1) The samples were submitted for various physical characteristics. The Chlorine results were reported from the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples and by Bomb preparation method (ASTM D808) followed by both Ion Chromatography (EPA 9056) and Titration (EPA 9253) for the LLGF Samples. The analysis for Titration (EPA 9253) for the LLGF Samples was sub-contracted to Certified Environmental Laboratory for analysis. Copies of the data for this sub-contracted analysis is presented after the raw data for analysis conducted by Adirondack Environmental Services.
- 2) The Bomb preparation blank for Chlorine was an accurately weighed amount of Iso-octane carried through the entire Bomb preparation and sample analysis. The ratio of the blank result versus the amount of Iso-octane added for the sample preparation was subtracted from the results. The Shale samples were the only samples that had the Iso-octane added during preparation since these samples would not ignite on their own.
- 3) Peak area was used to calculate all Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples appearing in this data package.
- 4) Retention time windows for Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples use +/- 3 times the standard deviation of the standards about the mean retention time.



314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891 www.adirondackenvironmental.com

- 5) A Method Detection Limit (MDL) study was performed for Chlorine using the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples. The results of this MDL are provided after this case narrative.
- 6) Density was performed at ambient temperature.
- 7) Sample LLGF-C1A-R3 (AES sample number 110114014-006) was used for the matrix spike for Chlorine on the LLGF samples. The recovery for Chlorine was within acceptable limits. The recovery for the Chlorine spike by ASTM 808/9056 was 99 %. The recovery for the Chlorine spike by ASTM 808/9253 was 120 %.
- 8) Sample Shale-C1A-R3 (AES sample number 110114014-012) was used for the pre-preparation matrix spike for Chlorine on the Shale samples. This spike was added prior to the bomb preparation step. The recovery for EPA Method 5050/9056 was 84 %.
- 9) Sample LLGF-C1A-R3 (AES sample number 110114014-006) was used for the duplicate for the LLGF samples. All recoveries were within required limits.
- 10) Sample Shale-C1A-R3 (AES sample number 110114014-012) was used for the pre-preparation duplicate for Chlorine on the Shale samples. All recoveries were within required limits.
- 11) The following lists the analyses and the units in which the results are reported.

<u>Analyte</u>	Reporting Units
% Ash	%
Heating Value	btu/lb
Chlorine (5050/9056 and ASTM D808/9056)	mg/Kg
Chlorine (ASTM D808/9253)	mg/Kg
Density	g/ml

"I certify that this data package is in compliance with the terms and conditions of the protocol, both technically and for completeness, to the best of my knowledge, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Laboratory Manager

Date: み/10/

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Sample Packing and Traceability List

P.O. #: N/A	ices	vised		neters Special Instructions	1/11/11 1st Analytical results	1/11/11 in 2 weeks.	1/12/11 Finel 120-59 in	257,43x	1,1,3/11	1/13/11	,						1/11/1	1/11/1	1/12/11	1/12/11	1/6//	1/3/11			e, sediment and metals.		opper, nickel and zinc.		Received by Lab (print); Date:////	Signature: Now Time: 10.3	Analytical Laboratory Destination:	314 North Pearl Street	Albany, NY 12207 Attn: Tara Daniels, (518)-434-4546	The second secon
Cahoes, NY	Adirondack Env. Services	C1A = Condition 1 Revised	Hand Delivered	Analitical Parameters	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3							See Notes 2 and 3	See Notes 2 and 3	See Notes 2 and 3	See Notes 2 and 3	See Notes 2 and 3	See Notes 2 and 3			, density, total chlorine		nium, lead, mercury, co		t); Date:	Time:	Date:	Time:		
Project Location:	Laboratory:	// rest conditions:	FedEx Air Bill #:	Sample Description	Liquid Low Grade Fuel C1RT, Run 1	Liquid Low Grade Fuel C1RT, Run 2	Liquid Low Grade Fuel C1RT, Run 3	Liquid Low Grade Fuel C1A, Run 1	Liquid Low Grade Fuel C1A, Run 2	Liquid Low Grade Fuel C1A, Run 3							RT, Run 1	RT, Run 2	RT, Run 3	A, Run 1	A, Run 2	A, Run 3			are ash, heat content	d metals.	llium, cadmium, chron	Contract of the Contract of th	Relinquished By (print):	Signature:	Received By (print):	Signature:		
13/11	livere	_		Sam	Liquid Low Gre	Liquid Low Gra	Liquid Low Grz	Liquid Low Gra	Liquid Low Gra	Liquid Low Gra							Shale Feed C1RT, Run 1	Shale Feed C1RT, Run 2	Shale Feed C1RT, Run	Shale Feed C1A, Run 1	Shale Feed C1A, Run 2	Shale Feed C1A, Run 3			Used Oil (if fired	otal chlorine and	le: arsenic, bery		Date:	Time:	Date:	Time:		
Sample Date: 1/11-13	bed:	Snipper Doug Roeck Recovery: Fred Sanguedolce		Sample Matrix	Organic Liquid	Organic Liquid	Organic Liquid	Organic Liquid	Organic Liquid	Organic Liquid							Inorganic / Solid	Inorganic / Solid	Inorganic / Solid	Inorganic / Solid	Inorganic / Solid	Inorganic / Solid			1. Target parameters for LLGF and Used Oil (if fired) are ash, heat content, density, total chlorine, sediment and metals.	2. Target parameters for shale are total chlorine and metals.	Target metals (all streams) include: arsenic, beryllium, cadmium, chromium, lead, mercury, copper, nickel and zinc. Page		Relinquished By (print):	Signature:	Received By (print):	Signature:		
		Wesfford MA		San	LLGF-C1RT-R1	LLGF-C1RT-R2	LLGF-C1RT-R3	LLGF-C1A-R1	4 LLGF-C1A-R2	I LLGF-C1A-R3							SHALE-C1RT-R1	SHALE-C1RT-R2	SHALE-C1RT-R3	SHALE-C1A-R1	SHALE-C1A-R2	SHALE-C1A-R3				2. Target p	3. Target r		(print): Date: 1 3 1 seck	all Roule 17:00	int): Date:	ر ام ^و بدا	0±1 150	
Site of Program:	Type of Program:	Project #:	Program Contact	Item	4 CO!A	2 (CO) A	3 1 OSA	4 CON A	5 005A	V 9 V	7	8	6	10	7	12	13 557	14 008	15 009	16 010	17 01	710 81	19	20	Field Notes/ Comments				Relinquished By (print): Douglas R. Roeck	Signelleichen		Signature	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	* ク *

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Sample Packing and Traceability List

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Project #: Program O lem lem 21 DC 22 DC 23 CC 24 OC 25 CC 25					Laboratory:	Adirondack Env. Services	3 - 1	1
Program G	Office:	Westford, MA	Snipper / Doug Roeck / Recovery: Fred Sanguedolce	-	5/# Test Conditions:	C1R1 = Condition 1 Retest	etest vised	
21 OC 23 OC 24 OX 25 OC	١	Doug Roeck			FedEx Air Bill #:	Hand Delivered		_
		Sample ID Code	Sample Matrix	Sampl	Sample Description	Analitical Parameters	neters	Special Instructions
	DOIR LLG	LLGF-C1RT-R1	Organic Liquid	Liquid Low Grade	Liquid Low Grade Fuel C1RT, Run 1	See Notes 1 and 3	11/11/11	Archived Duplicate
	١.	LLGF-C1RT-R2	Organic Liquid	Liquid Low Grade	Liquid Low Grade Fuel C1RT, Run 2	See Notes 1 and 3	1/1/11	Archived Duplicate
	i —	LLGF-C1RT-R3	Organic Liquid	Liquid Low Grade	Liquid Low Grade Fuel C1RT, Run 3	See Notes 1 and 3	1/2/11	Archived Duplicate
	~	LLGF-C1A-R1	Organic Liquid	Liquid Low Grade	Llquid Low Grade Fuel C1A, Run 1	See Notes 1 and 3	11/2/1	Archived Duplicate
┢		LLGF-C1A-R2	Organic Liquid	Liquid Low Grade	Liquid Low Grade Fuel C1A, Run 2	See Notes 1 and 3	(/13/11	Archived Duplicate
_	۱	LLGF-C1A-R3	Organic Liquid	Liquid Low Grade	Liquid Low Grade Fuel C1A, Run 3	See Notes 1 and 3	11/61/1	Archived Duplicate
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32		1	7			,		
33	SHA	SHALE-OIRT-RY	Inorganic/Solid?	Shale Feed C1RT, Run 1	T, Rywr1	See Notes 2 and 3	ì	Archiveg/Dupligate /
34	SHA	SHALE-CIRTAR2	Inorganic / Solid	Shale Peed C1RT	Irkun 2	See Notes 2 and 3		Archiyed Duglicate/
35	SHA	SHALE-CURT-R3	lporganio/ Solid	Share Feed CART, Rung	T, Run	See Motes 2/and 3		Archived Jauplicate
36	7H%	SHALE,C1A-K1	Inorganic / Solid	Johale Fepd C1A, Ruff 1	. ह्यूबर्त १	Spe Notge 2 and 3		// Krchived Dup/Icate
37	#S/	SHALE-C14-R2	/ Ing/ganic/Solid /	Shale Feed C19, Run 2	Run 2	See Notes 2 and 3	/	Archived Dipplicate
38	NS /	SHÆLE-Ø1A-R3	horgapic / Solid	Shale Feed Of A, Run 3	, Run 3	See/Notes 2 and 3	2	Archived (buplicate
39				/				
40								
Field Note	Field Notes/ Comments		 Target parameters for LLGF and Used Oil (if fired) are ash, heat content, density, total chlorine, sediment and metals. Target parameters for shale are total chlorine and metals. 	Jsed Oil (if fired) and n	are ash, heat content	t, density, total chlorine	e, sediment and	metals.
		3. Target n	Target metals (all streams) include: arsenic, beryllium, cadmium, chromium, lead, mercury, copper, nickel and zinc.	e: arsenic, berylliu	um, cadmium, chron	nium, lead, mercury, co	opper, nickel and	I.
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Received By (print):	ad By (print):	Date:	Received By (print):	Date:	Received By (print):	Date:	Analytical Labo	Analytical Laboratory Destination: Adirondack Environmental Services
Signature:	~ (V	- ^	Signature:	Time:	Signature:	. Time:	314 North Pearl Street	rl Street
1	H	8:47					Albany, NY 12207	Albany, NY 12207 Attn: Tara Daniels (518)-434-4546

Sample Packing and Traceability List

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P.O. #: rvices	Retest	Revised		ameters	1/11/11	1/11/11	17711	1/2//	1/15/11	1/13/11	,														ne, sediment an		copper, nickel a	Received by Lab (print):	Signature:	Analytical Lal	Adirondack Environme	Albany, NY 12207
Conoes, NY Adirondack Env. Services	C1RT = Condition 1 Retest	C1A = Condition 1 Revised	Hand Delivered	Analitical Parameters	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3															ensity, total chlori		m, lead, mercury,	Date:	Time:	Date:	i.	900
Laboratory:	Test Conditions:		FedEx Air Bill #:	Sample Description	Run 1	Liquid Low Grade Fuel C1RT, Run 2	Liquid Low Grade Fuel C1RT, Run 3	Liquid Low Grade Fuel C1A, Run 1	Liquid Low Grade Fuel C1A, Run 2	Liquid Low Grade Fuel C1A, Run 3															are ash, heat content, d	metals.	(all streams) include: arsenic. beryllium, cadmium, chromium, lead, mercury, copper, nickel and zinc. Page	Relinguished By (print):	Signature:	Received By (print):	Signature	ogradue.
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ped: //and	per/ Doug Roe			Sample Matrix	Organic Liquid	Organic Liquid	Organic Liquid	Organic Liquid	Organic Liquid	Organic Liquid															Target parameters for LLGF and Used Oil (if fired) are ash, heat content, density, total chlorine, sediment and metals.	2. Target parameters for shale are total chlorine and metals.	netals (all streams) include	Relinquished By (print):	Signature:	Received By (print):	.03.1000	Cigirator 6.
2010 MACT CPT	60163411	Westford, MA	Doug Roeck	Sample ID Code	ENT-C1RT-R1	ENT-C1RT-R2	ENT-C1RT-R3	ENT-C1A-R1	ENT-C1A-R2	ENT-C1A-R3															1. Target	2. Target	3. Target metals	Date: //	al Time:	Date:	1 3 / 11	, in i.e.
Type of Program: 20			Program Contact: Do	Sampl	LLGF-SEDIMENT-C1R1	LLGF-SEDIMENT-C1RT-R2	LLGF-SEDIMENT-C1RT-R3	LLGF-SEDIMENT-C1A-R1	LLGF-SEDIMENT-C1A-R2	LLGF-SEDIMENT-C1A-R3															Field Notes/ Comments			Relinquished By (print): Douglas R. Roeck	Visigust Ro	Receixed By (print):	Signal And And And And And And And And And And	757
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110114014-001A	Logout	1/27/2011 8:54:10 AM		PL	ASH&DENSITY
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110114014-006A	Logout	1/27/2011 8:54:10 AM	i	PL	ASH&DENSITY
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110114014-008A	Receiving	1/14/2011 10:30:16 AM			
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Sample ID:	Action:	ActionDate:	ID:	NewLocation:	Purpose:
110114014-010A	Logout	1/21/2011 3:53:49 PM	PL	PL	Bomb Prep
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110114014-012A	Logout	1/26/2011 8:15:33 AM	WB	William Blom	HG_PREP_S
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110114014-015A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-016A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-017A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-018A	Receiving	1/14/2011 10:30:16 AM	tara		

INORGANIC - METALS ANALYSIS

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name:	Adiro	ondack Environmental	Contract: 20	010 MACT CPT		
Lab Code:	AES	Case No.: NO 1101	SAS No.:		SDG No.: LLGF	-C1A-R1
SOW No.:	N/A					
	.=:/.==					
		EPA Sample No.		Sample ID.		
		LLGF-C1RT-R1		114014-001A		
		LLGF-C1RT-R2		114014-002A		
		LLGF-C1RT-R3		114014-003A	 	•
		LLGF-C1A-R1		114014-004A		
		LLGF-C1A-R2	 -	114014-005A		
		LLGF-C1A-R3	·····	114014-006A		
		SHALE-C1RT-R1		114014-007A		
		SHALE-C1RT-R2		114014-008A		
		SHALE-C1RT-R3		114014-009A		
		SHALE-C1A-R1		114014-010A		
		SHALE-C1A-R2		114014-011A		
		SHALE-C1A-R3	110	114014-012A		
		•				
Were ICF	intere	element corrections applied?			Yes/No	YES
	_	ound corrections applied?			Yes/No	YES
Ιf	yes-we	re raw data generated before				170
ap	plicati	on of background corrections?			Yes/No	NO
a	•					
Comment	s:					
 						
I certif	v that	this data package is in compli	ance with the t	terms and con-	ditions of the	
		technically and for completene				1
		of the data contained in this		package and	in the computer	-readable data
		skette has been authorized by				
Manager	or the	Manager's designee, as verifie	d by the tollo	wing signatur	ė.	
		A Tach 11				
Signature	:-	Idel XI New Hice	Name:	Sheryl Mar	tucci	
	-		_			
		1 1				
Date:		2//0//1	Title:	Inorganics	Manager	
						
		CO,	VER PAGE - IN			ILMO4.

NEICVP1120E01

Appendix CAA A Page 627 of 1159 :00055

Norlite, LLC Cohoes, New York

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

						•		
Lab Name:	<u>Adirondac</u>	k Environmenta	contra	act: 2010 MACT	CPT			******
Lab Code:	AES	Case No.:	NO 1101 SA	S No.:	SDO	∃ No.:	LLGF-C1A-R1	
Matrix (soi	1/water):	SOIL		Lab Sample ID:	11	011401	1-004A	
Level (low/	med): <u>I</u>	JOW		Date Received:	1/	14/201	<u>L</u>	
% Solids:	100							
		Concentratio	on Units (ug/L o	r mg/kg dry weigh	t):	MG/	'KG	
		CAS No.	Analyte	Concentration	c c	5 м		

CAS No.	Analyte	Concentration	С	Õ	м
7440-38-2	Arsenic	41.0	†	*	₽
7440-41-7	Beryllium	0.22	שן	l	P
7440-43-9	Cadmium	56.8			P
7440-47-3	Chromium	210		Ī	P
7440-50-8	Copper	1010			P
7439-97-6	Mercury	0.30			CV
7439-92-1	Lead	161			P
7440-02-0	Nickel	460]	P
7440-66-6	Zinc	1610		1	P

Color Before:	 Clarity Before:	 Texture:	
Color After:	 Clarity After:	Artifacts:	
Comments:			

Form I - IN

EPA SAMPLE NO. LLGF-C1A-R1 B

Lab Name: Adirondac	k Environmenta	al. Contra	ect: 2010 MACT	CPT		
Lab Code: AES	Case No.:	NO 1101 SA	S No.:	S	DG No.:	LLGF-C1A-R1
Matrix (soil/water):	SOIL		Lab Sample ID:	<u> 1</u>	101140	14-004A
Level (low/med): <u>I</u>	<u>lom</u>		Date Received:	1	./14/20	11
% Solids: 0.0	•					
	Concentration	on Units (ug/L o	or mg/kg dry weigh	ıt) :	<u>M</u>	G/KG
	CAS No.	Analyte	Concentration	С	Q I	м
	7439-97-6	Mercury	0.15	<u>i i</u>	(EV

Color Before:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Clarity Before:	 Texture:		
Color After:		Clarity After:	Artifacts:		<u></u>
Comments:			 		

Form I - IN

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO. LLGF-C1A-R2

Lab Name:	Adironda	ck Environ	nental	Contr	act: 2	2010 MACT	CPT		
Lab Code:	AES	Case N	o.: NO 1	101 sa	S No.:		_ SDG	No.:	LLGF-C1A-R1
Matrix (soi	l/water):	SOIL			Ŀab	Sample ID:	110	114014	-005A
Level (low/r	ned):	LOW			Date	Received:	1/1	4/2011	
% Solids:	100	-							
		Concent	ration Unit	s (ug/L o	or mg/kg	dry weight	:) :	MG/	KG
		[· · · · · · · · · · · · · · · · · · ·						1	7

			·		
CAS No.	Analyte	Concentration	С	Ō	м
7440-38-2	Arsenic	46.9	1	*	₽
7440-41-7	Beryllium	0.22	ט	}	P
7440-43-9	Cadmium	45.9	Ī]	₽
7440-47-3	Chromium	166			P
7440-50-8	Copper	1210			Р
7439-97-6	Mercury	0.3B	Ī		cv
7439-92-1	Lead	181	Ī		P
7440-02-0	Nickel	486	1		P
7440-66-6	Zinc	1630			P

Color Before:	 Clarity Before:	 Texture:	
Color After:	 Clarity After:	 Artifacts:	
Comments:			
	 <u>.</u>	 	

Form I - IN

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

								I	LGF-ClA-R2 B
Lab Name:	Adironda	ck Environment	al Contra	ect: <u>2</u>	2010 MACT	CPT			
īab Code:	AES	Case No.:	NO 1101 SAS	S No.:		_ s	DG No	.:	LLGF-C1A-R1
Matrix (soi	l/water):	SOIL		Lab	Sample ID:	1	10114	4014	-005A
Level (low/	med):	LOW		Date	Received:	1	/14/2	2011	
% Solids:	0.0								
		Concentratio	on Units (ug/L o	r mg/kg	dry weight	E):		MG/F	KG
		CAS No.	Analyte	Concen	tration	С	Q	м	
		7439-97-6	Mercury	İ	0.17			cv	
		_							•

Color Before:		Clarity Before:	h	Texture:	
Color After:	**************************************	Clarity After:		Artifacts:	
Comments:					
-					

Form I - IN

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

							TPGECTW-K2
Lab Name:	Adirondack	Environmenta	L Co:	ntract:	2010 MACT CP	T	
Lab Code:	AES	Case No.:	NO 1101	SAS No.:		SDG No.:	LLGF-C1A-R1
Matrix (soi	l/water):	SOIL		Lab	Sample ID:	110114014	-006A
Level (low/	med): <u>LC</u>	<u> </u>		Dat	e Received:	1/14/2011	
% Solids:	100						
		Concentration	Units (ug,	'L or mg/k	g dry weight):	MG/	KG

,					
CAS No.	Analyte	Concentration	С	Ö	М
7440-38-2	Arsenic	37.4	+	*	P
7440-41-7	Beryllium	0.22	U]] P
7440-43-9	Cadmium	45.9	Ī	1	P
7440-47-3	Chromium	183	1		P
7440-50-8	Copper	1220		[P
7439-97-6	Mercury	0.32	1	1	cv
7439-92-1	Lead	1.68]		P
7440-02-0	Nickel	554	1		P
7440-66-6	Zinc	1660	1	<u> </u>	ΙP

Color Before:		Clarity Before:		Texture:	
Color After:		Clarity After:		Artifacts:	
Comments:					
,					
				<u> </u>	

Form I - IN

EPA SAMPLE NO. LLGF-C1A-R3 B

							LLGF-C1A-R3 B
Lab Name:	Adirondack	Environmenta	L Contrac	et: 2010 MACT	CPT		
Lab Code:	AES	Case No.:	NO 1101 SAS	No.:	_ SDG	No.:	LLGF-C1A-R1
Matrix (soil,	/water):	SOIL		Lab Sample ID:	110	114014	-006A
Level (low/me	ed): <u>LO</u>	<u>W</u>		Date Received:	1/1	4/2011	
% Solids: (0.0						
		Concentration	u Units (ug/L or	mg/kg dry weight	:) :	MG/1	KG
		CAS No.	Analyte	Concentration	C Q	М	
	7	439-97-6	Mercury	0.18		CV	
							-

Color Before:	 Clarity Before:		Texture:	
Color After:	 Clarity After:		Artifacts:	
Comments:	 	· · · · · · · · · · · · · · · · · · ·		

Form I - IN

ILM04.2

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INORGANIC ANALYSES DATA SHEET

-						Prince	EPA SAM	PLE NO.
							LLGF-C1	RT-R1
Lab Name:	Adironda	ck Environment	tal Contr	act: 2010 MACT	CPT		·	
Lab Code:	AES	_ Case No.:	NO 1101 SA	AS No.:	s	EDG No	.: LLGF-	C1A-R1
Matrix (soi	.l/water):	SOIL		Lab Sample ID:	: 1	L10114	014-001A	
Level (low/	med):	LOW		Date Received:	: 1	1/14/2	011	
% Solids:	100					·		
· solitus.	200	-						
		Concentrati	ion Units (ug/L o	or mg/kg dry weigh	ıt):		MG/KG	_
		CAS No.	Analyte	Concentration	С	ō	М	
		7440-38-2	Arsenic	31.0	 	-	P	
		7440-41-7	Beryllium	0.22	ן ט		p	
		7440-43-9	Cadmium	36.B			P	
		7440-47-3	Chromium	149	1 1		P	
		7440-50-8	Copper	1480			P	·
		7439-97-6	Mercury	0.24	<u> </u>		cv	
		7439-92-1	Lead	107			P	
		7440-02-0	Nickel	1390	<u> </u>		P	
		7440-66-6	Zinc	2070	<u> </u>		P	
			i					
			·					·
		÷	·					
Color Bef	fore:	C:	larity Before:		Tex	ture:		
Color Aft	er:	cı	larity After:		Art	ifacts	::	

Form I - IN

ILM04.2

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Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

			•				
						I	LGF-C1RT-R1 B
Lab Name: A	Adirondac	k Environmenta	el Contr	act: 2010 MACT	CPT		
Lab Code: A	ÆS	Case No.:	<u>NO 1101</u> SA	S No.:	SDO	3 No.:	LLGF-C1A-R1
Matrix (soil/	/water):	SOIL	·	Lab Sample ID:	<u> 11</u>	0114014	-001A
Level (low/me	ed): <u>I</u>	LOW		Date Received:	: <u>1/</u> :	14/2011	
% Solids: 0	0.0						
		Concentratio	on Units (ug/L o	or mg/kg dry weigh	nt):	MG/I	KG
		CAS No.	Analyte	Concentration	c g	M 5	
	Ĺ	7439-97-6	Mercury	0.14		cv	<u>.</u>
							•

Color Before:		Clarity Before:	_	Texture:	
Color After:		Clarity After:	•	Artifacts:	
Comments:					
	·				

Form I - IN

EPA SAMPLE NO. LLGF-C1RT-R2

			-			į		
Lab Name:	Adirondad	ck Environmenta	l Contra	et: 2010 MACT	CP:	r		
Lab Code:	AES	Case No.:	NO 1101 SAS	No.:		SDG No	.:	LLGF-C1A-R1
Matrix (soi	l/water):	SOIL		Lab Sample ID:		110114	4014	-002A
Level (low/	med):	LOW		Date Received:		1/14/2	2011	
% Solids:	100							
		Concentratio	n Units (ug/L or	: mg/kg dry weigh	t):		MG/I	KG
		CAS No.	Analyte	Concentration	С	Ō	м	

CAS No.	Analyte	Concentration	С	ō	М
7440-38-2	Arsenic	26.5	 	*	P
7440-41-7	Beryllium	0.22	Ju	Ī	P
7440-43-9	Cadmium	36.4			P
7440-47-3	Chromium	138			P
7440-50-8	Copper	1450	1		P
7439-97-6	Mercury	0.22	1	1	cv
7439-92-1	Lead	111	1]	P
7440-02-0	Nickel	1350]]	P
7440-66-6	Zinc	2040			P

Color Before:	 Clarity Before:	Texture:	
Color After:	 Clarity After:	 Artifacts:	
Comments:	 	 	

Form I - IN

EPA SAMPLE NO.

					_
LI	GE-C	lry-	R2	В	

					1	LLGF-CIRT-R2 B
Lab Name: Adir	ondack Environment	al Contra	ot: 2010 MACT	CPT	_	
Lab Code: AES	Case No.:	NO 1101 SAS	No.:	SD	G No.:	LLGF-C1A-R1
Matrix (soil/wate	er): SOIL		Lab Sample ID:	11	0114014	1-002A
Level (low/med):	LOW		Date Received:	1/	14/2011	<u> </u>
% Solids: 0.0						
	Concentration	on Units (ug/L or	r mg/kg dry weight	:):	MG/	KG
	CAS No.	Analyte	Concentration	С	ō м	
	7439-97-6	Mercury	0.13		cv	

Color Before:		Clarity Before:	 Texture:	
Color After:		Clarity After:	Artifacts:	
Comments:	<u></u>		 	

Form I - IN

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

 			 	,
LLGF-	-ClR	rR3		

,						LLGF-C1RT-R3
Lab Name: Adironda	ack Environment	al Contrac	et: 2010 MACT	CPT		
Lab Code: AES	Case No.:	NO 1101 SAS	No.:	_ SDG	No.:	LLGF-C1A-R1
Matrix (soil/water):	SOIL		Lab Sample ID:	110	L14014	-003A
Level (low/med):	LOW		Date Received:	1/14	1/2011	
% Solids: 100						
	Concentrati	on Units (ug/L or	mg/kg dry weight	:) :	MG/1	KG
	CAS No.	Analyte	Concentration	C Ō	М	
	7440-38-2	Arsenic	22.7	±	P	Ϊ
	7440-41-7	Beryllium	0.22	υ	P	Ì
	7440-43-9	Cadmium	24.2	-	P	Ī
	7440-47-3	Chromium	153	Į.	P	Ĩ
	7440-50-8	Copper	1280	i i	P	Ī

0.25

115

952

1780

CV

Ρ

₽

₽

Mercury

Nickel

Lead

Zinc

7439-97-6

7439-92-1

7440-02-0

7440-66-6

Color Before:	 Clarity Before:		Texture:	
Color After:	 Clarity After:		Artifacts:	
Comments:			,	

Form I - IN

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MG/KG

					-	LLGE-CIRT-R3 B
Adirondac	k Environment	al Cor	ntract:	2010 MACT CP	T	
AES	Case No.:	NO 1101	SAS No.:		SDG No.:	LLGF-C1A-R1
l/water):	SOIL		Lab	Sample ID:	110114014	1-003A
med): <u>L</u>	OW		Dat	e Received:	1/14/2011	<u>.</u>
0.0						

C CAS No. Analyte Concentration Q М 7439-97-6 Mercury 0.15 CV

Concentration Units (ug/L or mg/kg dry weight):

Color Before:	 Clarity Before:		Texture:	
Color After:	 Clarity After:	· ,	Artifacts:	
Comments:	 			
_				

Form I - IN

ILM04.2

Lab Name:

Lab Code:

% Solids:

0.0

Matrix (soil/water):

Level (low/med):

-<u>1</u>-INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MG/KG

_				
	SHZ	TE.	-CLA-RL	

Lab Name:	Adirondack l	Invironment	al Co	ntract:	2010 MACT CP	T	
Lab Code:	AES	Case No.:	NO 1101	SAS No.:		SDG No.:	LLGF-C1A-R1
Matrix (soil	l/water):	SOIL		Lab	Sample ID:	11011401	1-010A
Level (low/m	ned): <u>LOW</u>	· · · · · · · · · · · · · · · · · · ·		Date	Received:	1/14/201	
% Solids:	100					•	

Concentration Units (ug/L or mg/kg dry weight):

CAS No.	Analyte	Concentration	С	Õ	М
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.8	[P
7440-43-9	Cadmium	0.31	U	Ī	P
7440-47-3	Chromium	73.1	1		P
7440-50-8	Copper	68.6	T	E	P
7439-97-6	Mercury	0.01	שן		cv
7439-92-1	Lead	11.58	שׁ	N	P
7440-02-0	Nickel	43.4			P
7440-66-6	Zinc	134	1	i i	P

Color Before:	 Clarity Before:	 Texture:	
Color After:	 Clarity After:	 Artifacts:	
Comments:	 ·		

Form I - IN

						1	EPA SAMPLE NO.
							SHALE-Cla-R2
Lab Name:	Adironda	ck Environment	cal Contra	act: 2010 MACT	CP!	r '	
Lab Code:	AES	_ Case No.:	<u>NO 1101</u> SA	S No.:		SDG	No.: <u>LLGF-C1A-R1</u>
Metrix (soi	l/water):	SOIL		Lab Sample ID:	:	1101	114014-011A
Level (low/	med):	LOW		Date Received:	:	1/14	1/2011
% Solids:	100	Concentrati	on Units (ug/L o	or mg/kg dry weigh	at):		MG/KG
		CAS No.	Analyte	Concentration	С	ō	М
		7440-38-2	Arsenic	11.96	Ū	И	P
		7440-41-7	Beryllium	1.7	Ī	j	P
		7440-43-9	Cadmium	0.31	Ū		P
		7440-47-3	Chromium	74.9	1		P
		7440-50-8	Copper	43.9		E	P
		7439-97-6	Mercury	0.01	U		CV
		7439-92-1	Lead	11.58	U	N	P
		7440-02-0	Nickel	41.0	<u> </u>	[P
		7440-66-6	Zinc	100	<u> </u>		P
Color Bef			arity Before:	·		exture	
Comments:							

Form I - IN

		II.	ORGANIC ANALY	SES DATA SHEET		:	EPA SAMPLE NO.
							SHALE-CIA-R3
Lab Name:	Adironda	ck Environment	al Contra	ct: 2010 MACT	CPT		
Lab Code:	AES	Case No.:		S No.:		No.:	LLGF-C1A-R1
		-	210 1201 1	 			
Matrix (soi	il/water):	SOIL		Lab Sample ID:	110	114014	-012A
Level (low/	med):	LOW		Date Received:	1/1	4/2011	
% Solids:	100						
		-					u
		Concentrati	on Units (ug/L o	r mg/kg dry weigh	t):	MG/	KG
			7-7-6-				ī
		CAS No.	Analyte	Concentration	C O	М	
		7440-38-2	Arsenic	11.96	U N	P	į
		7440-41-7	Beryllium	1.7		P]
		7440-43-9	Cadmium	<u> </u>	ט	P	_[
		7440-47-3	Chromium	59.1		P	<u> </u>
		7440-50-8	Copper	42.3	E	P	
		7439-97-6	Mercury	<u></u>	U	CV	1
		7439-92-1	Lead	· ·	U N	P	<u> </u>
		7440-02-0	Nickel	43.1	<u> </u>	P	<u> </u> -
		7440-66-6	Zinc	64.4	<u> </u>	P	<u> </u>
					٠		
					-		
Color Bef	fore:	Cl	arity Before:		Textur	e:	
	·	· · · · · · · · ·					
Color Aft	er:	Cl	arity After:		Artifa	cts:	
						•	
Comments:	<u></u>						

Form I - IN

EPA SAMPLE NO. SHALE-CIRT-R1

Lab Name:	Adironda	ck Environmen	tal Cont	ract: 2010 MACT	CP:	<u> </u>	- <u> </u>	
Lab Code:	AES	Case No.:	<u>NO 1101</u> s	AS No.:		SDG N	īo.:	LLGF-C1A-R1
Matrix (soi	l/water):	SOIL		Lab Sample ID	:	1101	14014	-007A
Level (low/	med):	LOW		Date Received	:	1/14	/2011	
% Solids:	100	-						
		Concentrat	ion Units (ug/L	or mg/kg dry weigh	ht):		MG/E	KG ,
		CAS No.	Analyte	Concentration	С	Q	м	
		7440-38-2	Arsenic	11.96	Ū	N	P	
		7440-41-7	Beryllium	1.8			l p	Ī

Cadmium

Copper

Mercury

Lead

Zinc

Nickel

Chromium

0.31 |0 |

E

63.8

38.4

42.6

71.1

0.01 U

11.58 | U | N

P

P

₽

CV

P

P

Ρ

7440-43-9

7440-47-3

7440-50-8

7439-97-6

7439-92-1

7440-02-0

7440-66-6

Color Before:	· · · · · · · · · · · · · · · · · · ·	Clarity Before:	 Texture:	
Color After:		Clarity After:	 Artifacts:	
Comments:			 ······································	
			 	· · · · · · · · · · · · · · · · · · ·

Form I - IN

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

			_
SHALE	-CIR	T-R2	

Lab Name:	Adirondack	Environmental	Con	tract:	2010 MACT CP	T	
Lab Code:	AES	Case No.: N	0 1101	SAS No.:		SDG No.:	LLGF-C1A-R1
Matrix (soi	l/water):	SOIL	 _	Lab	Sample ID:	110114014	-008A
Level (low/	med): <u>LO</u>	W		Dat	e Received:	1/14/2011	
% Solids:	100						
		Concentration	Units (ug/I	or mg/k	g dry weight):	MG/	KG

pir					
CAS No.	Analyte	Concentration	С	ō	м
7440-38-2	Arsenic	11.96	Ū	N	P
7440-41-7	Beryllium	1.7	T]	P
7440-43-9	Cadmium	0.31	U	1	P
7440-47-3	Chromium	72.2		}	P
7440-50-8	Copper	43.4	Ī	E	P
7439-97-6	Mercury	0.02	В	1	cv
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	39.4		1	P
7440-66-6	Zinc	87.1			P

Color Before:		Clarity Before:	 Texture:	
Color After:	M	Clarity After:	 Artifacts:	
Comments:				

Form I - IN

EPA SAMPLE NO.

							٤	SHALE-C1RT-R3
Lab Name:	Adironda	ck Environment	al Contra	ct: 2010 MACT	CP	<u>r </u>		AA.
Lab Code:	AES	SDG N	lo.:	LLGF-C1A-R1				
Matrix (soi	l/water):	SOIL		Lab Sample ID:		11011	14014	-009A
Level (low/	med):	LOW		Date Received:		1/14/	/2011	
% Solids:	100	_						
		Concentration	on Units (ug/L o	r mg/kg dry weigh	t):		MG/I	KG
		CAS No.	Analyte	Concentration	С	Q	М	
`		7440-38-2	Arsenic	11.96	Ü	N	P	
		7440-41-7	Beryllium	1.8			P	j
		7440-41-7 7440-43-9	Beryllium Cadmium	<u>.</u>	 U	1	P	
			!	<u>.</u>	 U	<u> </u>		
		7440-43-9	Cadmium	0.31	 U 	[]] [E	P	
		7440-43-9 7440-47-3	Cadmium Chromium	0.31	 	l l	P P	
		7440-43-9 7440-47-3 7440-50-8	Cadmium Chromium Copper	0.31 72.9 40.2	 <mark>U</mark>	 E N	P P	
		7440-43-9 7440-47-3 7440-50-8 7439-97-6	Cadmium Chromium Copper Mercury	0.31 72.9 40.2	 <mark>U</mark>		P P CV	

Color Before:		Clarity Before:	 Texture:	
Color After:	t - 1, - 1, - 1, - 1, - 1, - 1, - 1, - 1	Clarity After:	Artifacts:	
Comments:				

Form I - IN

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

гар у	name:	Adirondack	Environmenta.	1	Contract:	2010	MACT	CPT		
Lab (Code:	AES	Case No.:	NO 1101	SAS No.	:			SDG No.:	LLGF-C1A-R1

Initial Calibration Source: EPA-ICV

Continuing Calibration Source: EPA-LV

Concentration Units: ug/L

	Initial	. Calibration	1	Continuing Calibration							
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м		
Arsenic	2000.0	1968.86	98.4	2000.0	1955.83	97.8	1980.55	99.0	₽		
Beryllium	2000.0	2068.70	103.4	2000.0	2034.15	101.7	2022.28	101.1	P		
Cadmium	2000.0	2070.48	103.5	2000.0	2058.02	102.9	2044.82	102.2	P		
Chromium	2000.0	1980.09	99.0	2000.0	1968.36	98.4	1972.39	98.6	P		
Copper	2000.0	2142.53	107.1	2000.0	2103.78	105.2	2128.42	106.4	₽		
Mercury	1 2.0	2.07	103.5	2.0	2.05	102.5	2.16	108.0	cv		
Lead	2000.0	2068.86	103.4	2000.0	2046.47	102.3	2050.23	102.5	P		
Nickel	2000.0	2040.59	102.0	2000.0	2022.91	101.1	2053.95	102.7	P		
Zinc	2000.0	2027.42	101.4	2000.0	2026.37	101.3	2042.84	102.1	₽		

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Form II (Part 1) - IN

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Adirondack Environmental				ıl		_Contract:	2010	MACT	CPT				
Lab	Code:	AES	Case	No.:	МО	1101	SAS No.	:			SDG No.:	LLGF-C1A-R1	
Init	tial Cal	ibration Sou	rce:	EPA-I	CV						_		
Con	tinuing	Calibration	Source:	EP.	A-IV						_		

Concentration Units: ug/L

	Initi	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	м	
Arsenic				2000.0	1999.52	100.0	1964.74	98.2	₽	
Beryllium				2000.0	2032.94	101.6	2009.15	100.5	₽	
Cadmium	l -			2000.0	2034.46	101.7	2009.52	100.5	P	
Chromium	_1			2000.0	2025.38	101.3	1973.00	98.6	P	
Copper				2000.0	2116.02	105.8	2098.05	104.9	Р	
Mercury	l			2.0	2.13	106.5	1.86	93.0	CV	
Lead	1			2000.0	2058.10	102.9	2026.12	101.3	₽	
Nickel			ĺ	2000.0	2089.74	104.5	2053.71	102.7	P	
Zinc				2000.0	2062.42	103.1	2033.97	101.7	₽	

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Form II (Part 1) - IN

2A INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name:	Adirondack	Enviro	nmenta	<u>1</u>	_Contract:	2010 MACT	CPT			
Lab Code:	AES	Case	No.:	NO 1101	SAS No.	:		SDG No.:	LLGF-C1A-R1	
Initial Calibration Source: EPA-ICV										
Continuing	Calibration	Source:	EPA	Y-TA						
Concentration Units: ug/L										

	Initi	al Calibrati	on	Continuing Calibration						
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R (1)	м	
Mercury				2.0	1.8	6 93.0			CV	

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

Form II (Part 1) - IN

2B-IN CRDL STANDARD FOR AA AND ICP

Lab Name:	Adirondack	Envir	оппе	ntal	Contract:	2010	MACT	CPT			_
Lab Code:	AES	Case 1	No.:	NO 1101	SAS No	. :			SDG No.:	LLGF-C1A-R1	-
AA CRDL Sta	ndard Source	:									
ICP CRDL St	andard Source	e:	INOR	-VEN							
				Con	centration	Unit	s: ug/L				

					CRDL Star	dard f	or ICP	
				In:	itial		Final	L
Analyte	True	Found	₹R	True	Found	%R	Found	%R
Arsenic			1	20.0	16.26	81.3	17.64	88.2
Beryllium		1		10.0	8.95	89.5	8.88	88.8
Cadmium		1	j	10.0	9.51	95.1	9.33	93.3
Chromium				20.0	17.94	89.7	19.49	97.4
Copper				50.0	46.08	92.2	42.21	84.4
Lead				6.0	6.56	109.3	6.83	113.8
Nickel		1		80.0	76.32	95.4	76.57	95.7

40.0

Control Limits: no limits have been established by EPA at this time

Form IIB-IN

ILM04.2

39.87 99.7

39.70 99.2

Zinc

BLANKS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	С	1	C	ontinuing Cal Blank (ug/ 2	L)	cation		Preparation Blank	м
·						C		<u>C</u>	C C	!
Arsenic	1.5	ט	1.5		1.5	Ų	1.5	Ü	0.150 U	P
Beryllium	0.1	ט	0.1	ש	0.1	U	0.1	υ	0.013 U	P
Cadmium	0.1	U	0.2	B	0.2	В	0.3	В	0.090 B	P
Chromium	4.7	ט	4.7	U	4.7	U	4.7	U	0.470 U	₽
Copper	2.5	Ū	2.5	ש	2.5	U	2.5	ט	0.250 ^ប	P
Mercury	0.06	ט	0.06	ט	0.06	U	0.06	υ	0.012 U	CV
Lead	1.9	U	1.9	[ט	1.9	ט	1.9	σ	0.190 U	P
Nickel	0.6	Ū	0.6	U	0.6	U	0.6	U	1.896 B	P
Zinc	0.8	U	0.8	ַ	0.8	ט	0.8	σ	0.736 B	P

BLANKS

Lab Name:	Adirondack Er	nvironment	a <u>l</u>	Contrac	t: 2010 MACT CPT	
Lab Code:	AES	Case No.:	NO 1101	SAS No.:	SDG No.:	LLGF-C1A-R1
Preparatio	n Blank Matrix	(soil/wate	r): <u>SOIL</u>			
Preparation	n Blank Concent	tration Unit	ts (na/L or ma	/km) :	MG/KG	

	Initial Calib. Blank (ug/L)			Cont	Preparation Blank						
Analyte	(49, 11)	С	1	С	2	С	3	С		С	М
Arsenic			1.5	U					0.150	Ü	P
Beryllium			0.1	ן ט					0.013	Ü	P
Cadmium			0.1	В					0.045	В	P
Chromium			4.7	α					0.470	U	· P
Copper			2.5	ŭ					0.250	U	P
Mercury			0.06	U	0.06	ש			0.012	Ū	CV
Lead			1.9	U				1	0.190	Ū	P
Nickel			0.6	ט				_ [0.304	В	P
Zinc			0.8	U				[0.377	В	P

ICP INTERFERENCE CHECK SAMPLE

Lab Name	: Adirondack Environmental	Contract:	2010 MACT CPT			
Lab Code	: AES Case No.: NO 1101 SAS	No.:		DG No.:	LLGF-C1A-R1	
ICP ID N	umber: ICP4		ICS Source:	EPA		
	Concentrat	ion Units:	ug/L			

	Tx	rue	Ini	itial Found		Final Found			
Analyte	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R	
Aluminum	500000	500000	499003	500185.1	100.0	497944	501795.1	100.4	
Beryllium		500		462.2	92.4		458.0	91.6	
Cadmium		1000		997.1	99.7		979.6	98.0	
Calcium	500000	500000	532135	535812.3	107.2	528971	534807.1	107.0	
Chromium		500		458.8	91.8		447.8	89.6	
Copper		500		460.9	92.2		456.4	91.3	
Iron	200000	200000	181945	183277.1	91.6	176958	188868.3	94.4	
Lead		1000		902.3	90.2		909.9	91.0	
Magnesium	500000	500000	462240	465488.4	93.1	461157	468225.4	93.6	
Nickel		1000		1065.7	106.6		1062.4	106.2	
Zinc		1000		925.2	92.5		930.4	93.0	

Form IV - IN

SAMPLE NO.

			LLGF-C1RT-R1 BMS
Lab Name: Adirondack	Environmental	Contract: 2010 MACT	CPT
Lab Code: AES	Case No.: NO 1101	SAS No.:	SDG No.: <u>LLGF-C1A-R1</u>
Matrix (soil/water):	SOIL	Level (low/med): LOW	
% Solids for Sample:	100.0	, , , <u>==,,,,</u>	<u></u>
	Concentration Units	(ug/L or mg/kg dry weight)	: MG/KG

			3, 3 1 3	•				
Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR)	С	Spike Added (SA)	%R	ō	м
Mercury	75 - 125	0.472	0.144		0.400	82.0		CV

Comments:

Form V (PART 1) - IN

SAMPLE NO.

LLGF-C1RT-R	

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

100.0 % Solids for Sample:

Analyte	Control	Spiked Sample Result (SSR)	c	Sample		Spike			
	Limit %R	Result (SSR)		Result (SR)	C	Added (SA)	%R	ō	M
Arsenic	75 - 125	46.7237		30.9718		16.234	97.0		P
Beryllium	75 - 125	0.7950	в	0.22	U	0.974	81.6		P
Cadmium	1	39.6202		36.8413		0.397	700		P
Chromium	75 - 125	193.8694	-	149.2530		44.733	99.7		P
Copper	i	1594.3720		1482.2330		19.481	576		P
Mercury	75 - 125	0.5500	1	0.2420		0.40	77.0		CV
Lead	Ī j	134.4662	j	107.1786		15.512	176		P
Nickel		1540.4090	Ī	1391.6270	<u> </u>	11.183	1330		Р
Zinc	1	2226.4570		2068,7170	Ī	34.993	451		P

Comments:	

Form V (PART 1) - IN

SAMPLE NO.

TYCE CIDE DIMOS	
LLGF-C1RT-R1MS2	

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

	1	0-11-1 01					·		
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	C	Spike Added (SA)	%R	Ω	М
Arsenic	75 - 1.25	90.6297		30.9718		67.01	89.0		P
Beryllium		0.0521	ט	0.22	ָט	0.00	0.0		P
Cadmium	75 - 125	108.7793	I	36.8413		74.46	96.6		E
Chromium	75 - 125	414.4670		149.2530		294.12	90.2		E
Copper	75 - 125	4121.0430		1482.2330		2565.15	102.9		E
Lead	75 - 125	346.7920		107.1786		234.55	102.2		E
Nickel	75 - 125	3963.3970		1391.6270	1	2553.98	100.7		E
Zinc	75 - 125	5364.5200	1	2068.7170	1	4151.15	79.4		E

Comments:			
	 	 	

Form V (PART 1) - IN

SAMPLE NO. SHALE-C1RT-R1MS Lab Name: Adirondack Environmental Contract: 2010 MACT CPT Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-ClA-R1 Matrix (soil/water): SOIL Level (low/med): LOW 100.0 % Solids for Sample: Concentration Units (ug/L or mg/kg dry weight): _MG/KG Spiked Sample Control Sample Spike Analyte Result (SSR) C Added (SA) Limit %R Result (SR) 움R Ō M Mercury 75 - 125 0.3780 0.40 0.0120 U CV 94.5

Comments:

Form V (PART 1) - IN

SAMPLE NO.

SHALE-C1RT-R2MS	
OHELDE CIKI KEMD	

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

% Solids for Sample: 100.0

SOIL

Matrix (soil/water):

Concentration Units (ug/L or mg/kg dry weight):

_MG/KG

	Ţ,							
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	Spike Added (SA)	₽R	Q	м
Arsenic	75 - 125	7.9362		11.96 U	15.571	51.0	N	P
Beryllium	75 - 125	2.4308		1.7016	0.934	78.1		P
Cadmium	75 - 125	0.4156	в	0.31 U	0.381	109.1		P
Chromium	75 - 125	108.0969	1 1	72.2200	42.907	83.6		₽
Copper	75 - 125	61.1181		43.4097	18.685	94.8		Ъ
Lead	75 - 125	0.6678	U	11.58 U	14.879	0.0	N	Р
Nickel	75 - 125	48.3131		39.3845	10.727	83.2		P
Zinc	75 - 125	108.0044		87.1394	33.564	62.2	N	P

Level (low/med):

LOW

Comments:		
	·····	

Form V (PART 1) - IN

SAMPLE NO.

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight):

_MG/KG___

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	&R	Q	М
Arsenic	75 - 125	11.3468		11.96	[ซ	18.998	59.7	N	P
Beryllium	75 - 125	4.1932		1.7016		2.936	84.9		₽
Cadmium	Ī	0.0846	в	0.31	ប	0.0	0.0		P
Chromium	75 - 125	154.1564		72.2200	Ī	93.264	87.9	Ī	P
Copper	75 - 125	137.3771		43.4097	[79.447	118.3		₽
Lead	75 - 125	61.5843		11.58	Ū	34.542	178.3	и	P
Nickel	75 - 125	103.1725		39.3845		69.085	92.3	İ	P
Zinc	75 - 125	235.3684		87.1394	1	138.169	107.3	İ	P

Comments:		

Form V (PART 1) - IN

ILM04.2

Cohoes, New York

POST DIGEST SPIKE SAMPLE RECOVERY

CAMDLE	ΝO

Lab	Name:	Adirondack	Environme	ntal	Contract:	2010 MAC	T CPT		
Lab	Code:	AES	Case No.:	NO 1101	SAS No.:	· · · · · · · · · · · · · · · · · · ·	SDG No.	LLGF-C1A-R1	
Mati	cix (soi	1/water):	SOTT		Lev	zel (low/me	ed): T.C	T V	

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added(SA)	%R	ō	м
Arsenic		170.11		101.59		80.0	85.6		₽
Beryllium		100.89		0.14	ΰ	100.0	100.9		P
Cadmium		213.66		120.84		100.0	92.8		P
Chromium		865.69		489.55		400.0	94.0		P
Copper		5345.53		4861.73		500.0	96.8		P
Lead		380.46		351.55		40.0	72.3		P
Nickel		5437.13		4564.54		1000.0	87.3		P
Zinc		7463.28		6785.39		1000.0	67.8		P

Comments:			

POST DIGEST SPIKE SAMPLE RECOVERY

C T COM C D	2.7.

Lab Name:	Adirondack	Environmental	Contract: 2010 MACT CPT	
Lab Code:	AES	Case No.: NO 1101	SAS No.: SDG No.: LLGF-ClA-R1	
Matrix (so	il/water):	SOIL	Level (low/med): LOW	

Concentration Units: ug/L

	1	10-41-4 01-	1	G1-					
Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added(SA)	%R	Õ	M
Arsenic		49.33		1.50	ט	80.0	61.7		F
Beryllium		105.74		5.16		100.0	100.6		Ē
Cadmium		95.65		0.13	ប	100.0	95.6		E
Chromium		630.40		219.12	l	400.0	102.8		F
Copper		657.07		131.70		500.0	105.1		E
Lead		24.12		1.93	υ	40.0	60.3		E
Nickel		1101.06		119.49		1000.0	98.2		E
Zinc		1266.39		264.38		1000.0	100.2		E

Comments:	 			
	=	 	 	

SAMPLE NO.

MG/KG

LLGF-C1RT-R1	BDP

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Case No.: NO 1101 Lab Code: AES SAS No.: SDG No.: LLGF-C1A-R1

Level (low/med): LOW Matrix (soil/water): SOIL

% Solids for Duplicate: 100.0 % Solids for Sample: 0.0 Concentration Units (ug/L or mg/kg dry weight):

Control Analyte Limit Sample (S) Duplicate (D) RPD CV 0.144 0.128 11.8 Mercury

Form VI - IN

SAMPLE NO.

1397.6950

2124.7280

LLGF-C1RT-R1DP	

Adirondack Environmental Contract: 2010 MACT CPT Lab Name: SDG No.: LLGF-C1A-R1 Case No.: NO 1101 Lab Code: AES SAS No.: Level (low/med): LOW Matrix (soil/water): SOIL % Solids for Duplicate: 100.0 100.0 % Solids for Sample: Concentration Units (ug/L or mg/kg dry weight): MG/KG Control Analyte Limit Sample (S) С Duplicate (D) С RPD М Б 30.9718 47.7360 42.6 Arsenic ₽ 0.22 Ψ Beryllium 0.22 υ Ρ Cadmium 36.8413 37.6900 2.3 P 149.2530 157.0795 Chromium 5.1 ₽ 1482.2330 1520.8860 2.6 Copper Mercury 0.2420 0.2260 6.8 CV 107.1786 111.4653 P 3.9 Lead

1391.6270

2068.7170

Form VI - IN

P

Ρ

0.4

2.7

Nickel

Zinc

SAMPLE NO.

			SHALE-CIRT-RIDP
Adirondac	k Environmental	Contract: 2010 MACT CP	T
AES	Case No.: NO 1101	SAS No.:	SDG No.: LLCF-C1A-R1
/water):	SOIL	Level (low/med):	LOW

Matrix (soil/water):

AES

% Solids for Sample:

Lab Name:

Lab Code:

SOIL 100.0

% Solids for Duplicate:

100.0

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

Analyte	Control Limit	Sample (S)		С	Duplicate	(D)	Ü	RPD	Q	м
Mercury		:	0.0120	บ		0.0120	ט			CV

Form VI - IN

SAMPLE NO.

ŀ	SHALE-C1RT-R2DP
L	

37.9502

81.7059

Adirondack Environmental Contract: 2010 MACT CPT Lab Name: Case No.: NO 1101_ SAS No.: SDG No.: LLGF-C1A-R1 Lab Code: AES Level (low/med): LOW Matrix (soil/water): SOIL % Solids for Duplicate: 100.0 % Solids for Sample: 100.0 MG/KG Concentration Units (ug/L or mg/kg dry weight): Control Analyte Limit С С RPD Sample (S) Duplicate (D) M P 11.96 11.96 U U Arsenic P 1.7016 1.6982 B 0.2 Beryllium Ρ 0.31 U Cadmium 0.31 υ Ρ Chromium 72.2200 70.8385 1.9 P 43.4097 42.4342 2.3 8.2 Copper 11.58 U Ρ Lead 11.58 U

39.3845

87.1394

P

P

3.7

6.4

Nickel

Zinc

13.2

7 LABORATORY CONTROL SAMPLE

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Solid LCS Source: EPA-ICV

Aqueous LCS Source: EPA-ICV

		Aqueous (ug/L)			Solid (mg/kg)					
Analyte		True	Found	%R	True	Found	С	Limits		%R
Arsenic		500.0	454.00	90.8	1					1
Beryllium		500.0	448.00	89.6	j					
Cadmium	1	500.0	457.00	91.4]	, ,				
Chromium	-	500.0	443.00	88.6	l					1
Copper	1	500.0	458.00	91.6	1				*	Ì
Mercury		2.0	2.08	104.0	7.7	9.3		5.5	9.9	120.9
Lead	i	500.0	469.00	93.8	I					İ
Nickel	i	500.0	453.00	90.6						İ
Zinc	1	500.0	445.00	89.0	[İ

Form VII - IN

LABORATORY CONTROL SAMPLE

 Lab Name:
 Adirondack Environmental
 Contract:
 2010 MACT CPT

 Lab Code:
 AES
 Case No.:
 NO 1101
 SAS No.:
 SDG No.:
 LLGF-C1A-R1

Solid LCS Source: EPA-ICV

Aqueous LCS Source: EPA-ICV

	Aqueous	(ug/L)			Soli	d (mg/	/kg)	
Analyte	True	Found	%R	True	Found	С	Limits	%R
Arsenic	500.0	475.00	95.0				1 .]
Beryllium	500.0	464.00	92.8			ΠÍ	1	
Cadmium	500.0	480.00	96.0					
Chromium	500.0	454.00	90.8			Τİ	1	İ
Copper	500.0	481.00	96.2			Πİ	1	
Lead	500.0	494.00	98.8		1	Τİ]	İ
Nickel	500.0	484.00	96.8	•	1	ΠÌ	1	
Zinc	500.0	474.00	94.8	/ . /	1	ΤÌ	<u> </u>	i

Form VII - IN

-8-STANDARD ADDITION RESULTS

Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101

SAS No.:

SDG NO.: LLGF-C1A-R1

(Concentration Units):

ug/L

Sample ID.	An	0 ADD ABS	1 CON	ADD ABS	2 ; CON	ADD ABS	3 i	ADD ABS	Final Conc.	x	Q

ICP SERIAL DILUTIONS

SAMPLE NO.

Lab Name: Adirondack Environmental Contract: 2010 MACT C

SAS No.: SDG No.: LLGF-C1A-R1. Lab Code: AES Case No.: NO 1101

Matrix (soil/water): SOIL Level (low/med): LOW

	Concentrat	tion	Units: ug/L				
Analyte	Initial Sample Result (I)	С	Serial Dilution Result (S)	c	% Differ- ence	Q	м
Arsenic	101.59	1	99.1)	2.4		P
Beryllium	0.14	U	0.70	ט (כ			P
Cadmium	120.84	1	124.8	Ì	3.3		P
Chromium	489.55	Ī	466.0	5	4.8		Р
Copper	4861.73	1	4559.1	Ī	6.2	•	P
Lead	351.55	ĺ	374.8	5	6.6	•	P
Nickel	4564.54	Ī	4553.1	-	0.3		P
Zinc	6785.39	İ	7335.9	7	8.1		P

9 ICP SERIAL DILUTIONS

SAMPLE NO.

TOM

SHALE-C1RT-R2L

Lab Name:	Adirondack Environmental	Contract:	2010 MACT C	
	**************************************			_
			•	

Matrix (soil/water): SOIL Level (low/med):

Concentration Units: ug/L

Analyte	Initial Sample Result (I)		Serial Dilution Result (S)			% Differ- ence		h
		С			С		δ	1 2
Arsenic	1.50	U		7.50	Ū			P
Beryllium	5.16	ĺ		4.14	В	19.8	<u> </u>	F
Cadmium	0.13	U		0.65	Ū		İ	F
Chromium	219.12	İ		185.97	i	15.1	1	P
Copper	131.70	İ		110.12	В	16.4	E	P
Lead	1.93	Ū		9.65	Ū	l	1	P
Nickel	119.49	i	li	126.65	В	6.0	i	P
Zinc	264.38	İ		287.89		8.9	İ	P

Form IX - IN

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name:	Adirondack E	nvironmental	<u>. </u>	Contract	: 2010 MAC	T CPT		
Lab Code:	AES (Case No.: NO	1101	SAS No.:		_ SDG	No.:	LLGF-C1A-R1
ICP ID Numb	er:			Date:	7/21/2010			
Flame AA ID	Number: C	VAA	·					
Furnace AA	ID Number:							
		Analyte	Wave- length (nm)	Back- ground	CRDL (ug/L)	IDL (ug/L)	м	
		Mercury	253.70		0.20	0.06	CV	

Comments:

Form X - IN

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab	Name:	Adirondack	Environmental.	Contract	: 2010 MACT C	PT	
Lab	Code:	AES	Case No.: <u>NO 1101</u>	SAS No.:		SDG No.:	LLGF-ClA-R1
ICP	ID Numb	er: <u>ICP4</u>	TO THE PARTY OF TH	Date:	10/19/2009	_	
Flan	ne AA ID	Number:					
Furi	nace AA	ID Number:					

Analyte	Wave- length (nm)	Back- ground	CRDL (ug/L)	IDL (ug/L)	м
Arsenic	189.04		10	1.5	P
Beryllium	313.04		5	0.1	₽
Cadmium	226.50		5	0.1	P
Chromium	267.72		10	4.7	P
Copper	324.75		25	2.5	P
Lead	220.35		3	1.9	P
Nickel	231.60		40	0.6	P
Zinc	206.2		20	0.8	P

Comments:		
	<u> </u>	

Form X - IN

11A ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name:	Adirondack Environmental				Contract:	2010 MACT CPT		
Lab Code:	AES	Case No.:	NO	1101	SAS No.:		SDG No.:	TJGE-C1A-R

ICP ID Number: ICP4 Date: 7/13/2010

:	Wave- length		Interelement	Correction F	actors for:	
Analyte	(nm)	Al	Ca	Fe	Mg	
Aluminum	308.20	0.0000000	0.0000000	0.0000000	0.0000000	
Antimony	206.80	0.0000000	0.0000000	0.0001461	0.0000000	
Arsenic	193.70	0.0000000	0.0000000	0.0000000	0.0000000	
Barium	493.40	0.0000000	0.0000000	0.0000000	0.0000000	
Beryllium	313.00	0.0000000	0.0000000	0.0000000	0.0000000	
Cadmium	228.80	0.0000000	0.0000000	0.0000000	0.0000000	
Calcium	317.90	0.0000000	0.0000000	0.0000000	0.0000000	
Chromium	357.80	0.0000000	0.0000000	0.0000000	0.0000000	
Cobalt	228.60	0.0000000	0.0000000	0.0000000	0.0000000	
Copper	324.70	0.0000000	0.0000000	0.0000000	0.0000000	
Iron	259.90	0.0000000	0.0000000	0.0000000	0.0000000	
Lead	220.30	0.0005837	0.0000000	0.0000000	0.0000000	
Magnesium	383.80	0.0000000	0.0000000	0.0000000	0.0000000	
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	
Selenium	196.00	0.0000000	0.0000000	0.0000000	0.0000000	
Silver	328.00	0.0000000	0.0000000	0.0000000	0.0000000	
Sodium	588.90	0.0000000	0.0000000	0.0000000	0.0000000	
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	
Tin	189.90	0.0000000	0.0000000	0.0000000	0.0000000	
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	
Zinc	213.80	0.0000000	0.0000000	0.0002508	0.0000000	

Comments:	

ICP LINEAR RANGES (QUARTERLY)

Lab	Name:	Adirondack Er	nvironmental		Contract:	2010 MACT C	PT	
Ľab	Code:	AES	Case No.:	NO 1101	SAS No.:		SDG No.:	LLGF-C1A-R1

ICP ID Number: ICP4

Date:

7/20/2010

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	м
Arsenic	60.00	100000.0	P
Beryllium	60.00	10000.0	P
Cadmium	60.00	10000.0	P
Chromium	60.00	10000.0	[P
Copper	60.00	100000.0	P
Lead	60.00	200000.0	P
Nickel	60.00	200000.0	P
Zinc	60.00	20000.0	P

Comments:	_
	_

Form XII - IN

PREPARATION LOG

Lab Name:	Adirondack Environmental	Contract:	2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Method: P

EPA Sample No.	Preparation Date	Initial Volume mL	Volume (mL)
LCSW	1/20/2011	100.0	100.0
LLGF-C1A-R1	1/20/2011	0.26	100.0
LLGF-C1A-R2	1/20/2011	0.26	100.0
LLGF-C1A-R3	1/20/2011	0.27	100.0
LLGF-C1RT-R1	1/20/2011	0.33	100.0
LLGF-C1RT-R1DP	1/20/2011	0.26	100.0
LLGF-C1RT-R1MS	1/20/2011	0.28	100.0
LLGF-C1RT-R1MS2	1/20/2011	0.27	100.0
LLGF-C1RT-R2	1/20/2011	0.29	100.0
LLGF-C1RT-R3	1/20/2011	0.26	100.0
MB,IS	1/20/2011	100.00	100.0
SHALE-C1A-R1	1/20/2011	0.31	100.0
SHALE-C1A-R2	1/20/2011	0.30	100.0
SHALE-C1A-R3	1/20/2011	0.33	100.0
SHALE-C1RT-R1	1/20/2011	0.32	100.0
SHALE-C1RT-R2	1/20/2011	0.30	100.0
SHALE-C1RT-R2DP	1/20/2011	0.28	100.0
SHALE-C1RT-R2MS	1/20/2011	0.29	100.0
SHALE-C1RT-R2MS2	1/20/2011	0.29	100.0
SHALE-C1RT-R3	1/20/2011	0.31	100.0

PREPARATION LOG

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Method: CV

EPA Sample No.	Preparation Date	Initial Weight (g)	Volume (mL)
LCSS	1/26/2011	0.20	50.0
LLGF-C1A-R1	1/26/2011	0.25	50.0
LLGF-C1A-R2	1/26/2011	0.25	50.0
LLGF-C1A-R3	1/26/2011	0.25	50.0
LLGF-C1RT-R1	1/26/2011	0.25	50.0
LLGF-C1RT-R1DP	1/26/2011	0.25	50.0
LLGF-C1RT-R1MS	1/26/2011	0.25	50.0
LLGF-C1RT-R2	1/26/2011	0.25	50.0
LLGF-C1RT-R3	1/26/2011	0.25	50.0
PBS	1/26/2011	0.25	50.0
SHALE-C1A-R1	1/26/2011	0.25	50.0
SHALE-C1A-R2	1/26/2011	0.25	50.0
SHALE-C1A-R3	1/26/2011	0.25	50.0
SHALE-C1RT-R1	1/26/2011	0.25	50.0
SHALE-C1RT-R1DP	1/26/2011	0.25	50.0
SHALE-C1RT-R1MS	1/26/2011	0.25	50.0
SHALE-C1RT-R2	1/26/2011	0.25	50.0
SHALE-C1RT-R3	1/26/2011	0.25	50.0

PREPARATION LOG

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Method: CV

EPA Sample No.	Preparation Date	Initial Volume	Volume (mL)
LCSW	1/26/2011	50.0	50.0
LLGF-C1A-R1 B	1/26/2011	0.3	50.0
LLGF-C1A-R2 B	1/26/2011	0.3	50.0
LLGF-C1A-R3 B	1/26/2011	0.3	50.0
LLGF-C1RT-R1 B	1/26/2011	0.3	50.0
LLGF-C1RT-R1 BDP	1/26/2011	0.3	50.0
LLGF-C1RT-R1 BMS	1/26/2011	0.3	50.0
LLGF-C1RT-R2 B	1/26/2011	0.3	50.0
LLGF-C1RT-R3 B	1/26/2011	0.3	50.0
PBM	1/26/2011	50.0	50.0

Form XIII - IN

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Instrument ID Number: ICP4 Method: P

Start Date: 1/26/2011 End Date: 1/26/2011

Start Date: 1/20/2																											
EPA													2	ha	1y	tes	3										
Sample No.	D/F	Time	% R	A	S	A	В	В	C	c	С	С	C					Н	t 1	ĸ		A	N	T	V	Z	
			<u> </u>	L	В	s	A	E	D	A	R	٥	미	E	В	G	И	G	I		E	G	Α	I.		N	
ICV-1	1.00	1009	<u> </u>	<u> </u>		X		x	X	_	X		X		x			_	X							X	_
TCB-1	1.00	1015				Х		x	Х		Х	_	x		X				Х							х	<u> </u>
CRI-1	1.00	1044			<u> </u>	x		x	Х		X		X		х				X							X	
ICSA-1	1.00	1049		Х			L			x			_	X		X											L
TCSAB-1	1.00	1050		x			L	x	Х	×	X		х	х	x	X			х							х	_
CCV-1	1.00	1054				x		x	х		X		x		$ \mathbf{x} $				x							x	L
CCB-1	1.00	1108				х		х	Х		X		\mathbf{x}		x				х							x	L
MB,IS	1.00	1121				x		x	х		X		\mathbf{x}		x				x			Ĺ.				X	
LCSW	1.00	1125		1		х		х	х		х		$ \mathbf{x} $		x				$ \mathbf{x} $							x	Γ
LLGF-C1RT-R1	1.00	1127				x		x	Х	Ī	X	_ 1	x		x				x							х	
LLGF-C1RT-R1DP	1.00	1132				х		х	х	\exists	Х	1	x		x				х							х	i —
LLGF-C1RT-R1MS	1.00	1137				x		х	X	İ	Х		x		х				x							х	
LLGF-C1RT-R1MS2	1.00	1140	Ì			x		х	х	1	X	Ī	x		х				x		i	Γ				x	_
LLGF-C1RT-R1A	1.00	1145	i			х		x	х	_i	х		x		х				х							х	Π
LLGF-C1RT-R1L	5.00	1154	<u> </u>	İ		x		x	X	一	Х		x		х				x							х	<u> </u>
LLGF-C1RT-R2	1.00	1159	<u> </u>	İ		х		х	x		X		x		x				х							х	<u> </u>
LLGF-C1RT-R3	1.00	1203	<u> </u>	H		х		х	х	寸	X	1	х		х				х							х	
CCV-2	1.00	1212	<u> </u>	i		x		х	x	<u> </u>	х		x		х				х					_		х	_
CCB-2	1.00	1218		 		x		x	х	i	Х		x		x				х							х	
LLGF-C1A-R1	1.00	1222		 	,	x		x	х	- 	х	1	x		x				x							x	<u> </u>
LLGF-C1A-R2	1.00	1226	i			х		х	х		х	i	x		х				х							х	_
LLGF-C1A-R3	1.00					x		x	x	一	X	1	x		х				х	-						х	Ī
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LCS,IS	1.00	1239	<u> </u>			x		x	х	一	х	i	x		x				х							х	
SHALE-C1RT-R1	1.00		İ—			x		x	X		х	<u>_</u>	x		х				x		<u> </u>					х	<u> </u>
SHALE-C1RT-R2	1.00]			x		х	X		Х	<u> </u>	x		х				х		<u> </u>					X	<u> </u>
SHALE-C1RT-R2DP	1.00		 			x		x	X		х	i	x	_	х	_	-		x	_	_					X	_
SHALE-C1RT-R2MS	1.00		l <u></u>	 		х		х	x	_	Х	-	x		х				x		<u> </u>					X	_
SHALE-C1RT-R2MS2	1.00		 	├		x		х	X		X	-	x		x			<u> </u>	x			<u> </u>				х	
CCV-3	1.00		1	 		х		x	X		х		x	╗	x				Х							х	<u> </u>
CCB-3	1.00		<u> </u>	 	 	х		x		 	х		x		x				Х		<u> </u>					х	_
SHALE-C1RT-R2A		1322		 	_	x		!	X	_	X		X	_	x				X			<u> </u>				X	Ļ
SHALE-C1RT-R2L	_!	1327		1		X		<u> </u>	X	- 	X		x		X		\vdash	_	х	_	<u> </u>				Н	X	<u> </u>
SHALE-C1RT-R3		1333	<u> </u>		<u> </u>	x		<u> </u>	X		Х	4	x		x		Н		x		<u> </u>	<u> </u>			Н	x	<u> </u>
SHALE-C1A-R1		1337	l	\vdash		X	L	!	x		X	<u> </u>	x		X				x		<u>_</u>	_				X	
SHALE-C1A-R2		1345	<u> </u>	<u> </u>		X		X		<u></u>	х		X		x		_	_	x		_	<u> </u>				x	ļ
SHALE-C1A-R3		1349	<u>. </u>	-	L 	X		X	-	 	X		$\frac{2}{x}$		X		├	<u> </u>	Х		├	<u> </u>			_	X	⊷
CRI-2		1359	<u> </u>	 	L	X		<u> </u>	X		X	 	$\frac{\Delta}{x}$	-	X		├	┝	X	_	<u> </u>	L				x	_

Form XIV - IN

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-ClA-R1

Instrument ID Number: ICP4 Method: P

Start Date: 1/26/2011 End Date: 1/26/2011

EPA		m.:											Ana	ıly	te:	5								
Sample No.	D/F	Time	% R	A L	A S	ŀ	B E	C	CA		0	C C	F E	B		M	H G	N I	S E	A G				Z N
TCSA-2	1.00	1400		Х			İ		х				х		x				Π		П	П	П	寸
ICSAB-2	1.00	1404		X			x	х	х	Х		х	х	х	x	Ī	Ī	Х	Π		\Box			x
CCV-4	1.00	1417			х		х	х		X		x		X				X			П			х
CCB-4	1.00	1425		1	x		х	x		X		х		х	Π		Ī	x			Πİ		\Box	x

Form XIV - IN

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Instrument ID Number: CVAA Method: CV

Start Date: 1/26/2011 End Date: 1/26/2011

Start Date: <u>1/26/</u>	ZUII								12142			_	±/	20	<u>, - \</u>												
EPA													1	Ana	ıly	tes	3										
Sample No.	D/F	Time	% R		S B			B E	C		C R	C	C U	F	P B	M G	M N	H G	NI	ĸ	S E	A G		T L	v		C
īcv	1.00	1338	<u>, </u>									<u> </u>	 	<u> </u>				X	! 		1	┢			<u> </u>	 	-
ICB	1.00		<u> </u>	ļ			<u> </u>	 	<u> </u>	<u> </u>	<u> </u>	<u> </u>	1			_	 	x	Ļ	l	<u> </u>	 			<u> </u>	一	
PBW		1344	<u> </u>			 	Ì	<u> </u>			<u> </u>		1					Х	_	<u> </u>	<u> </u>		H	 	<u> </u>	 	一
LCSW	1.00		<u> </u>	1			1	<u> </u>			<u> </u>							X	ļ	<u> </u>	<u> </u>	一	 	L			-
LLGF-C1RT-R1 B	1.00		<u> </u>	 		 -	1	<u> </u>			<u></u>			-				х	_			\vdash			<u> </u>	Η.	╁
LLGF-C1RT-R1 BDP	1.00	1349	[i		<u> </u>	Ì	<u> </u>			_			Ì				Х	<u> </u>	<u> </u>		┢	H		 -	 	一
LLGF-C1RT-R1 BMS	1.00	1351		<u> </u>		i	i		 									Х			<u>i</u>	H	H				一
LLGF-C1RT-R2 B	1.00	1352				<u> </u>	<u> </u>	<u> </u>			_		_					X	! -	<u> </u>	1	1	i		 	 	一
LLGF-C1RT-R3 B	1.00	1354		Ϊ		i	1	i	_	<u> </u>					П			Х			_	┢	Н		_		一
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ССВ	1.00	1359	İ			<u> </u>		╎			 			 				Х		i		\vdash	Н			Г	\vdash
LLGF-C1A-R2 B	1.00	1400		<u> </u>		İ		<u> </u>					<u> </u>					х	_		<u> </u>			<u> </u>			
LLGF-C1A-R3 B	1.00	1402	<u> </u>	i		i –	i –	<u> </u>	_		 	<u> </u>	<u> </u>					х			<u> </u>	 					
PBS	1.00	1403	<u> </u>	İ		İ	İ											х			Ι_	1	m				
LCSS	10.00	1405	İ	 		İ	İ	<u> </u>		i	i	İ						х			1	一					Г
LLGF-C1RT-R1	1.00	1406	<u> </u>	l		<u> </u>	<u> </u>	<u> </u>		i	<u> </u>			_				х			 					П	_
LLGF-C1RT-R1DP	1.00	1408	ĺ	İ		İ		İ		i								х		l	Ì	<u> </u>	ΙÏ	_			Г
LLGF-C1RT-R1MS	1.00	1409	Í	İ		İ	İ	ĺ		i	Ī							х			<u> </u>	İ				П	İ
LLGF-C1RT-R2	1.00	1411				İ				i								х			Ì		П				Г
ccv	1.00	1419	Ì	İ		Ì	i	ĺ		Ì	İ							x			Ī						_
CCB	1.00	1420	ĺ	ĺ		Π	Ī	İ		Ī				Π				x			<u> </u>						
LLGF-C1A-R2	1.00	1422	ĺ	Ī				Ī		Ī	<u> </u>							X			Ī				П	П	
LLGF-C1A-R3	1.00	1424				ĺ		Ī	Ī	ÌП	İ							х				Г	П				
SHALE-C1RT-R1	1.00	1425																X			Ī		\Box				Г
SHALE-C1RT-R1DP	1.00	1427				Ī	Ī	<u> </u>										X				Π	\prod				
SHALE-C1RT-R1MS	1.00	1428																Х									
SHALE-C1RT-R2	1.00	1430					Ī				l							x				Γ	\Box				\Box
SHALE-C1RT-R3	1.00	1431																X									
SHALE-CLA-R1	1.00	1433																X				Ĺ					
SHALE-C1A-R2	1.00	1434																Х									
SHALE-Cla-R3	1.00	1436																x									
CCV	1.00	1437																Х									
CCB	1.00	1439																х									
CCV	1.00	1628		<u> </u>														Х									
CCB	1.00	1629																X									
LLGF-C1RT-R3	1.00	1631	1															х									
LLGF-C1A-R1	1.00	1632									_					_		x	_								

Form XIV - IN

Lab Name: Adirondack Environmental ____ Contract: 2010 MACT CPT Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1 Instrument ID Number: CV CVAA Method: End Date: 1/26/2011 Start Date: 1/26/2011 EPA Analytes Sample D/F Time %R C F P M M H U E B G N G B E в С CC s Α N Z C No. LBS D A R O G A E A N L N CCV 1.00 1637

1.00 1638

Form XIV - IN

ILM04.2

CCB

AECOM Environment

Adirondack Lab Report for October 2010 Test



Experience is the solution

314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891 www.adirondackenvironmental.com

Norlite Corp. 628 South Saratoga Street Cohoes, New York 12047

Attention: Prince Knight



Experience is the solution

314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891 www.adirondackenvironmental.com

TITLE PAGE

On October 21, 2010 six liquid and six solid samples were received by Adirondack Environmental Services, Inc. from Norlite at the Cohoes site. These samples were analyzed for Metals and Physical Parameters in accordance with methodology as detailed by the contract. This is an updated report to correct the metals results based on the client supplied information. The project was completed on January 25, 2011.

Laboratory Manager

Date: 1/25/11



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SAMPLE DATA SUMMARY PACKAGE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer	Laboratory	*VOA	*BNA	*PCB	*Pest	"Metals	*Other
Sample	Sample	GC/MS	GC/MS	GC	GC		CN
Code	Code	Method	Method	Method	Method		
LLGF-C1-R1	101021050-001					Х	Х
LLGF-C1-R2	101021050-002					Х	Х
LLGF-C1-R3	101021050-003					X	X
LLGF-C2-R1	101021050-004					X	Х
LLGF-C2-R2	101021050-005					х	Х
LLGF-C2-R3	101021050-006					х	Х
Shale-C1-R1	101021050-007					Х	Х
Shale-C1-R2	101021050-008					X	X
Shale-C1-R3	101021050-009					Х	Х
Shale-C2-R1	101021050-010				1	Х	X
Shale-C2-R2	101021050-011					Х	X
Shale-C2-R3	101021050-012					Х	Х

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSES

Laboratory			Date Rec'd	Date	Date
Sample ID	Matrix	Metals Requested	at Lab	Prepared	Analyzed
101021050-001 LIQUID		ICP	10/21/10	11/16/10	11/17/10
		Mercury		11/15/10	11/16, 11/17/10
		Ash			11/9/10
		Heating Value			11/24/10
		Chlorine (IC)		11/24/10	11/30/10
		Chlorine (Titration)		11/24/10	12/2/10
		Density			11/30/10
101021050-002	LIQUID	ICP	10/21/10	11/16/10	11/17/10
101021030-002	LIQUID	Mercury	10/21/10	11/15/10	11/16, 11/17/10
		Wicioury		11/15/10	11/13, 11/1/10
		Ash			11/9/10
		Heating Value			11/24/10
		Chlorine (IC)		11/24/10	11/30/10
		Chlorine (Titration)		11/24/10	12/2/10
		Density			11/30/10
101021050-003	LIQUID	ICP	10/21/10	11/16/10	11/17/10
101021030-003	inquib	Mercury	10,21,10	11/15/10	11/16, 11/17/10
					11/0/10
		Ash			11/9/10
		Heating Value		11/24/10	11/24/10
		Chlorine (IC)	- -	11/24/10	11/30/10 12/2/10
		Chlorine (Titration)		11/24/10	11/30/10
		Density			11/30/10
101021050-004	LIQUID	ICP	10/21/10	11/16/10	11/17/10
		Mercury		11/15/10	11/16, 11/17, 11/18/1
		Ash	-	`	11/9/10
	1	Heating Value			11/24/10
		Chlorine (IC)		11/24/10	11/30/10
		Chlorine (Titration)		11/24/10	12/2/10
		Density			11/30/10
101021050-005	LIQUID	ICP	10/21/10	11/16/10	11/17/10
101021030-003	LIQUID	Mercury	10/21/10	11/15/10	11/16, 11/17/10
	 	ivicioury		11,13,10	11/10, 11/1/10
		Ash			11/9/10
		Heating Value			11/24/10
		Chlorine (IC)		11/24/10	11/30/10
		Chlorine (Titration)		11/24/10	12/2/10
		Density			11/30/10

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY INORGANIC ANALYSES

Sample ID 101021050-006	Matrix LIQUID	Metals Requested ICP	at Lab	Prepared	Analyzed
101021050-006	LIQUID	ICP			
		101	10/21/10	11/16/10	11/17/10
		Mercury		11/15/10	11/16, 11/17/10
l		Ash			11/9/10
		Heating Value			11/24/10
		Chlorine (IC)		11/24/10	11/30/10
		Chlorine (Titration)		11/24/10	12/2/10
		Density			11/30/10
101021050-007	SOLID	ICP	10/21/10	11/18/10	12/1/10
		Mercury		11/15/10	11/17/10
		Chlorine		11/29/10	11/30/10
101021050-008	SOLID	ICP	10/21/10	11/18/10	12/1/10
101021030 000		Mercury		11/15/10	11/17/10
					
		Chlorine		11/29/10	11/30/10
		- Carrottine	<u> </u>		
101021050-009	SOLID	ICP	10/21/10	11/18/10	12/1/10
- 101021030 005	50222	Mercury	1	11/15/10	11/17/10
		THOTOLLY			
		Chlorine		11/29/10	11/30/10
		Omorino		11/23/10	1
101021050-010	SOLID	ICP	10/21/10	11/18/10	12/1/10
101021030-010	DODID	Mercury	15,221,10	11/15/10	11/17/10
		171010423		12, 12, 10	
		Chlorine		11/29/10	11/30/10
		OHIOTHIO		11122110	127,007,10
101021050-011	SOLID	ICP	10/21/10	11/18/10	12/1/10
101021030-011	5000	Mercury	10,21,10	11/15/10	11/17/10
		1.2010415	_		
		Chlorine		11/29/10	11/30/10
		ОДОТИС		11.27110	1.7507.10
101021050-012	SOLID	ICP	10/21/10	11/18/10	12/1/10
101021030-012	ا سروی	Mercury	10/21/10	11/15/10	11/17/10
		Mercury	_	11/13/10	X1111110
		Chlorine		11/29/10	11/30/10
		CHIOTHE		11147110	11170111



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Case Narrative

Client: Norlite - MACT/CPT

Case: NO 1001

SDG: LLGF-C1-R1

Sample ID	Laboratory Sample ID	Date Received	<u>VTSR</u>	<u>Matrix</u>
LLGF-C1-R1	101021050-001	10/21/10	14:09	Liquid
LLGF-C1-R2	101021050-002	10/21/10	14:09	Liquid
LLGF-C1-R3	101021050-003	10/21/10	14:09	Liquid
LLGF-C2-R1	101021050-004	10/21/10	14:09	Liquid
LLGF-C2-R2	101021050-005	10/21/10	14:09	Liquid
LLGF-C2-R3	101021050-006	10/21/10	14:09	Liquid
Shale-C1-R1	101021050-007	10/21/10	14:09	Solid
Shale-C1-R2	101021050-008	10/21/10	14:09	Solid
Shale-C1-R3	101021050-009	10/21/10	14:09	Solid
Shale-C2-R1	101021050-010	10/21/10	14:09	Solid
Shale-C2-R2	101021050-011	10/21/10	14:09	Solid
Shale-C2-R3	101021050-012	10/21/10	14:09	Solid

The liquid waste and solid samples were reported as is (assumed 100 % solids) for all analyses.

This is an updated report to correct the metals results based on the client supplied information.

Inorganics – Total Metals (Liquid)

- 1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.
- 2) The element Beryllium had results below the method detection limits (MDL). A LLGF sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/18/10. The results of this MDL are provided after this case narrative. All results for the LLGF samples for Beryllium use the value from the MDL for the reporting limit.
- 3) Analysis for Mercury was performed using two different digestion procedures. The first procedure used EPA Method 7471. The second procedure used a portion of the Metals digestate from EPA 3050 followed by EPA Method 7470 (Labeled with a "B" at the end of the sample name on the data forms).



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- 4) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.
- 5) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel and Zinc for sample LLGF-C2-R1 (AES sample number 101021050-004) spiked at 3 times the MDL was outside the required 75-125 % limits. This was due to the level in the sample that was much higher than the level of the spike added. At the levels spiked accurate recovery is not possible. The digested spike recovery for the element Chromium for sample LLGF-C2-R1 (AES sample number 101021050-004) spiked at 2 times the sample concentration was outside the required 75-125 % limits. The results for this element are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.
- 6) The digested spike recovery for the element Mercury (SW-846 3050/7470) for LLGF-C1-R1 B (AES sample number 101021050-001) was outside the required 75-125 % limits. The results for this element are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.
- 7) The element Arsenic for sample LLGF-C1-R1 (AES sample number 101021050-001) did not meet the serial dilution criteria of 10 %. This element is flagged with an "E" as required by the protocol. The "E" denotes an estimated value. This indicates a possible chemical or physical interference.
- 8) The recovery between sample LLGF-C1-R1 B (AES sample number 101021050-001) and the duplicate sample for the element Mercury (SW-846 3050/7470) was outside the required limits for sample duplication. This element is flagged with an "* " as required by the protocol. The %RPD for this analyte was less than the 35 % specified in the QAPP.

Inorganics - Total Metals (Solid)

1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.



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- 2) The elements Arsenic, Cadmium and Lead had results below the method detection limits (MDL). A Shale sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/16/10. The results of this MDL are provided after this case narrative. All results for the Shale samples for Arsenic, Cadmium and Lead use the value from the MDL for the reporting limit.
- 3) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.
- 4) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel and Zinc for sample SHALE-C2-R1 (AES sample number 101021050-010) spiked at 3 times the MDL was outside the required 75-125 % limits. This was due to the level in the sample that was much higher than the level of the spike added. At the levels spiked accurate recovery is not possible. The digested spike recovery for the elements Arsenic, Cadmium, Lead and Zinc for sample SHALE-C2-R1 (AES sample number 101021050-010) spiked at 2 times the sample concentration was outside the required 75-125 % limits. The results for these elements are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.
- 5) The digested spike recovery for the element Mercury for SHALE-C1-R1 (AES sample number 101021050-007) was outside the required 75-125 % limits. The results for this element are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.
- 6) The elements Copper and Zinc for sample SHALE-C1-R1 (AES sample number 101021050-007) did not meet the serial dilution criteria of 10 %. These elements are flagged with an "E" as required by the protocol. The "E" denotes an estimated value. This indicates a possible chemical or physical interference.
- 7) The recovery between sample SHALE-C1-R1 (AES sample number 101021050-007) and the duplicate sample for the element Zinc was outside the required limits for sample duplication. This element is flagged with an "* " as required by the protocol. The %RPD for this analyte was less than the 35 % specified in the QAPP.



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Inorganics

- 1) The samples were submitted for various physical characteristics. The Chlorine results were reported from the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples and by Bomb preparation method (ASTM D808) followed by both Ion Chromatography (EPA 9056) and Titration (EPA 9253) for the LLGF Samples. The analysis for Titration (EPA 9253) for the LLGF Samples was sub-contracted to Certified Environmental Laboratory for analysis. Copies of the data for this sub-contracted analysis is presented after the raw data for analysis conducted by Adirondack Environmental Services.
- 2) The Bomb preparation blank for Chlorine was an accurately weighed amount of Iso-octane carried through the entire Bomb preparation and sample analysis. The ratio of the blank result versus the amount of Iso-octane added for the sample preparation was subtracted from the results. The Shale samples were the only samples that had the Iso-octane added during preparation since these samples would not ignite on their own.
- 3) Peak area was used to calculate all Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples appearing in this data package.
- 4) Retention time windows for Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples use +/- 3 times the standard deviation of the standards about the mean retention time.
- 5) A Method Detection Limit (MDL) study was performed for Chlorine using the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples. The results of this MDL are provided after this case narrative.
- 6) Density was performed at ambient temperature.
- 7) Sample LLGF-C1-R2 (AES sample number 101021050-002) was used for the matrix spike for Chlorine on the LLGF samples. The recovery for Chlorine was outside acceptable limits. The recovery for the Chlorine spike by ASTM 808/9056 was 148 %. The recovery for the Chlorine spike by ASTM 808/9253 was 137 %. The results for this analyte are flagged with an "N" as specified by the protocol. This indicates possible matrix interference
- 8) Sample Shale-C2-R3 (AES sample number 101021050-012) was used for the pre-preparation matrix spike for Chlorine on the Shale samples. This spike was added prior to the bomb preparation step. The recovery for EPA Method 5050/9056 was 87 %.



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- 9) Sample LLGF-C1-R2 (AES sample number 101021050-002) was used for the duplicate for the LLGF samples, except for Ash analysis. All recoveries were within required limits.
- 10) Sample LLGF-C1-R1 (AES sample number 101021050-001) was used for the duplicate for the LLGF samples for Ash analysis. All recoveries were within required limits.
- 11) Sample Shale-C2-R3 (AES sample number 101021050-012) was used for the pre-preparation duplicate for Chlorine on the Shale samples. All recoveries were within required limits.
- 12) The following lists the analyses and the units in which the results are reported.

Analyte	Reporting Units
% Ash	%
Heating Value	btu/lb
Chlorine (5050/9056 and ASTM D808/9056)	mg/Kg
Chlorine (ASTM D808/9253)	mg/Kg
Density	g/ml

"I certify that this data package is in compliance with the terms and conditions of the protocol, both technically and for completeness, to the best of my knowledge, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Laboratory Manager

Albany, NY

EPA	SAMPLE	NO.	
 ĿĿ	GF-C1-R	1	

MG/KG

		·				DINGS -CT-KT
Lab Name:	Adirondack Env	ironmental	Contract:	2010 MACT CP	r	
Lab Code:	AES C	ase No.: <u>NO 1001</u>	SAS No.:	····	SDG No.:	LLGF-C1-R1
Matrix (soi)	l/water): SOI	Ī.	Lab	Sample ID:	101021050	-001A
Level (low/	ned): <u>LOW</u>		Dat	e Received:	10/21/201	0
% Solids:	100					

Concentration Units (ug/L or mg/kg dry weight):

Analyte С CAS No. Concentration M 7440-38-2 Arsenic 28.2 E Ρ 7440-41-7 U Beryllium 0.22 P 7440-43-9 Cadmium 53.4 Ρ 7440-47-3 Chromium 375 N P 7440-50-8 Copper 1230 ₽ Mercury 7439-97-6 1.5 CV 7439-92-1 Lead 1050 P 7440-02-0 Nickel 895 P 7440-66-6 1230 Zinc Ρ

Color Before:	Clarity Before:		Texture:	
Color After:	 Clarity After:		Artifacts:	
Comments:	 	·		

Form I - IN

EPA SAMPLE NO.

 	-	-	•
LLGF-C1-R1	В		

								LLGF-C1-R1 B
Lab Name:	Adironda	ck Environment	al Contra	ct: <u>2010 M</u> A	CT CP	<u>r </u>		
Lab Code:	AES	Case No.:	NO 1021 SAS	3 No.:		SDG 1	No.:	LLGF-C1-R1
Matrix (soi	l/water):	SOIL		Lab Sample	ID:	1010	21050	-001A
Level (low/	med):	LOW		Date Receiv	ed:	10/2	1/201	0
% Solids:	100							
		Concentrati	on Units (ug/L o	r mg/kg dry we	ight):		MG/I	KG
		CAS No.	Analyte	Concentration	С	Q	м	
		7439-97-6	Mercury	0.3	1	И*	CV	j

Color Before:	 Clarity Before:		Texture: _	
Color After:	 Clarity After:		Artifacts:	
Comments:		·		
	 ·			

Form I - IN

EPA SAMPLE NO. LLGF-C1-R2

							TEGE-C1-R2	
Lab Name:	Adirondack	Environmenta	<u> 1 </u>	Contract:	2010 MACT CE	our E		
Lab Code:	AES	Case No.:	NO 1001	SAS No.:		SDG No.:	LLGF-C1-R1	
Matrix (soi	l/water):	SOIL		I.ab	Sample ID:	101021050	-002A	
Level (low/	med): <u>LO</u>	₩		Dat	e Received:	10/21/201	0	
% Solids:	100							

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

-					
CAS No.	Analyte	Concentration	С	Õ	М
7440-38-2	Arsenic	30.9	+	E	P
7440-41-7	Beryllium	0.22	Ū		P
7440-43-9	Cadmium	56.3]	1	P
7440-47-3	Chromium	400	Ī	И	P
7440-50-8	Copper	1250	T	1	P
7439-97-6	Mercury	1.5	Ī] .	CV
7439-92-1	Lead	1080		Ï	[P
7440-02-0	Nickel	934			P
7440-66-6	Zinc	1270		1	P

Color Before:	 Clarity Before:	 Texture:	
Color After:	 Clarity After:	Artifacts:	
Comments:	,	 	
_			

Form I - IN

EPA SAMPLE NO.

LLGF-C1-R2	В	

							LLGF-C1-R2 B
Lab Name: Adirond	ack Environmen	tal Conti	ract: 2010 MACT	CP:	<u> </u>		
Lab Code: AES	Case No.:	NO 1021 s	AS No.:		SDG N	o.:	LLGF-C1-R1
Matrix (soil/water):	SOIL	<u> </u>	Lab Sample ID	:	10102	21050	-002A
Level (low/med):	LOW		Date Received	:	10/21	/201	0
% Solids: 100							
	Concentrat	ion Units (ug/L	or mg/kg dry weigl	ht):		MG/	KG
	CAS No.	Analyte	Concentration	С	Q	M	
	7439-97-6	Mercury	0.31		N*	cv	į

Color Before:	La-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	Clarity Before:		Texture:	
Color After:		Clarity After:	, , , , , , , , , , , , , , , , , , , 	Artifacts:	
Comments:					
•					

Form I - IN

ILM04.2

EPA	SAMPLE	MO.	
 ĽĽ	GF-C1-R	3	

MG/KG

P

Lab Name:	Adirondack	Environment	al Cor	itract:	2010 MACT CP	T	
Lab Code:	AES	Case No.:	NO 1001	SAS No.:		SDG No.:	LLGF-C1-R1
Matrix (soi	l/water):	SOIL		rap	Sample ID:	101021050	-003A
Level (low/r	med): <u>LO</u>	<u>W</u>		Dat	e Received:	10/21/201	0
% Solide:	100						

% Solids: 100

7440-66-6

Zinc

Concentration Units (ug/L or mg/kg dry weight):

Analyte Concentration õ М CAS No. 7440-38-2 16.3 E Arsenic P 7440-41-7 Beryllium 0.22 U P 7440-43-9 32.8 P Cadmium 7440-47-3 361 Chromium Ρ 7440-50-8 Copper 1270 P 7439-97-6 Mercury 1.0 CA 7439-92-1 Lead 741 P 7440-02-0 Nickel 819. P

1280

Color Before:	 Clarity Before:	 Texture:	
Color After:	 Clarity After:	 Artifacts:	· · · · · · · · · · · · · · · · · · ·
Comments:		 	

Form I - IN

____ ILM04.2

EPA SAMPLE NO.

LLGF-C1-R3	B

									LLGF-C1-R3 B
Lab Name:	Adirondad	k Environment	al Cont	ract: 2	2010 MACT	CPI	<u>. </u>		···
Lab Code:	AES	Case No.:	NO 1021	SAS No.:			SDG N	o.:	LLGF-C1-R1
Matrix (soi	l/water):	SOIL		Lab	Sample ID:		10102	1050	-003A
Level (low/	med):	LOW		Date	Received:		10/21	./201	0
% Solids:	100								
		Concentrati	on Units (ug/L	or mg/kg	dry weight	t):		MG/E	KG
		CAS No.	Analyte	Concer	ntration	С	Q	М	
	į	7439-97-6	Mercury	1	0.27		N*	CV	
	·								•

Color After: Clarity After: Artifacts: Comments:	Color Before:	<u> </u>	Clarity	Before:	 Texture:	
Comments:	Color After:		Clarity	After:	 Artifacts:	······································
	Comments:				 	

Form I - IN

EPA	PEMPITE	MO.	
 LL	GF-C2-R	1	

MG/KG

P

P

		2232 32 32
Lab Name: Adirondack Environmental Contr	act: 2010 MACT CPT	
Lab Code: AES Case No.: NO 1001 S	мо.:	SDG No.: LLGF-C1-R1
Matrix (soil/water): SOIL	Lab Sample ID:	101021050-004A
Level (low/med): LOW	Date Received:	10/21/2010
% Solids: 100		

Concentration Units (ug/L or mg/kg dry weight):

Nickel

Zinc

c Analyte Concentration Õ М CAS No. 7440-38-2 Arsenic 36.9 E Ρ Beryllium 7440-41-7 В 0.51 ₽ 7440-43-9 Cadmium 61.8 Ρ 7440-47-3 Chromium 508 N Р 7440-50-8 1250 Copper Ρ 7439-97-6 Mercury 1.7 CV 1020 7439-92-1 Lead P

939

1330

Color Before:		Clarity Before:		Texture:	
Color After:	-	Clarity After:	. ` `	Artifacts:	
Comments:					

Form I - IN

ILM04.2

7440-02-0

7440-66-6

EPA SAMPLE NO

									SEA SAMELLE NO.	
	•						Γ		LLGF-C2-R1 B	
Lab Name:	Adironda	ck Environmen	tal Com	ntract:	2010 MACT	CPI	<u>-</u>			
Lab Code:	AES	Case No.:	NO 1021	SAS No.:			SDG N	o.:	LLGF-C1-R1	
Matrix (soi	.l/water):	SOIL	<u> </u>	Lab	Sample ID:		10102	21050	-004A	
Level (low/	'med) :	LOW		Date	e Received:		10/2	L/201	0	
% Solids:	100									
		Concentrat:	ion Units (ug/	/L or mg/k	g dry weigh	t):		MG/I	KG	
		CAS No.	Analyte	Conce	ntration	С	Q	м		
	,	7439-97-6	Mercury	<u> </u>	0.41		N*	CV	! 	

Color Before:	Clarity	Before:		Texture:	
Color After:	 Clarity	After:	·	Artifacts:	
Comments:	 				

Form I - IN

 	SAMPLE	NO.	
	GF-C2-R		

MG/KG

							LLGF-C2-R2
Lab Name:	Adirondack	Environmenta	1	Contract:	2010 MACT CP	<u>T</u>	
Lab Code:	AES	Case No.:	NO 1001	SAS No.:		SDG No.:	LLGF-C1-R1
Matrix (soil	/water):	SOIL		rap	Sample ID:	101021050	-005A
Level (low/m	ned): <u>LO</u>	W		Dat	e Received:	10/21/201	0
% Solids:	100						

Concentration Units (ug/L or mg/kg dry weight):

CAS No. Analyte Concentration С M Q 7440-38-2 Arsenic 37.3 E P 7440-41-7 В Beryllium 0.56 ₽ 7440-43-9 Cadmium 60.8 P 7440-47-3 Chromium 490 И P 7440-50-8 Copper 1220 P 7439-97-6 Mercury 1.7 CV 7439-92-1 Lead 1010 P 7440-02-0 Nickel 920 P 7440-66-6 Zinc 1320 P

Color Before:		Clarity Before:	 Texture:	
Color After:		Clarity After:	Artifacts:	
Comments:				

Form I - IN

ILM04.2

Cohoes, New York

Norlite, LLC

EPA SAMPLE NO

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT
Lab Code: AES Case No.: NO 1021 SAS No.: SDG No.: LLGF-C1-R1 Matrix (soil/water): SOIL Lab Sample ID: 101021050-005A Level (low/med): LOW Date Received: 10/21/2010 % Solids: 100 Concentration Units (ug/L or mg/kg dry weight): MG/KG CAS No. Analyte Concentration C Q M
Matrix (soil/water): SOIL Lab Sample ID: 101021050-005A Level (low/med): LOW Date Received: 10/21/2010 % Solids: 100 Concentration Units (ug/L or mg/kg dry weight): MG/KG CAS No. Analyte Concentration C Q M
Level (low/med): LOW Date Received: 10/21/2010 % Solids: 100 Concentration Units (ug/L or mg/kg dry weight): MG/KG CAS No. Analyte Concentration C Q M
% Solids: 100 Concentration Units (ug/L or mg/kg dry weight): MG/KG CAS No. Analyte Concentration C Q M
Concentration Units (ug/L or mg/kg dry weight): MG/KG CAS No. Analyte Concentration C Q M
CAS No. Analyte Concentration C Q M
7439-97-6 Mercury 0.38 N* CV
7439-97-6 Mercury 0.38 N* CV

Color Before:	 Clarity Before:	 Texture:	
Color After:	 Clarity After:	Artifacts:	,
Comments:	 	 	

Form I - IN

ILM04.2

EPA SAMPLE NO. LLGF-C2-R3

MG/KG

			•				LLGF-C2-R3	
Lab Name:	Adironda	ack Environmenta	al Cor	ntract:	2010 MACT CE	·T		
Lab Code:	AES	Case No.:	NO 1001	SAS No.:		SDG No.:	LLGF-C1-R1	
Matrix (soil	l/water):	SOIL		Lab	Sample ID:	10102105	0-006A	
Level (low/m	med):	LOW		Dat	e Received:	10/21/20	10	
% Solids:	100							

Concentration Units (ug/L or mg/kg dry weight):

Analyte Concentration CAS No. M 7440-38-2 Arsenic 36.6 E P Beryllium 7440-41-7 0.34 В P 7440-43-9 Cadmium 61.0 P 7440-47-3 Chromium 453 P N 7440-50-8 Copper 1280 P 7439-97-6 Mercury 1.8 CV 7439-92-1 Lead 1040 Ρ Nickel 7440-02-0 943 ₽ 7440-66-6 Zinc 1300 P

Color Before:		Clarity Before:	Texture:	
Color After:		Clarity After:	 Artifacts:	
Comments:	-		 	
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Form I - IN

EPA SAMPLE NO.

 LGF-C2-	R3	В	

						i		LLGF-C2-R3 B
Lab Name:	Adironda	ck Environment	al Conti	ract: 2010 MACT	CP	<u> </u>		
Lab Code:	AES	Case No.:	<u>NO 1021</u> s	AS No.:		SDG N	o.:	LLGF-C1-R1
Matrix (soi	1/water):	soll.		Lab Sample ID	:	10102	21050	-006A
Level (low/	med):	LOW		Date Received	:	10/21	/201	0
% Solids:	100	-		4				
,		Concentrati	on Units (ug/L	or mg/kg dry weig	nt):		MG/I	KG
		CAS No.	Analyte	Concentration	С	Q	м	
		7439-97-6	Mercury	0.35		N*	cv	<u> </u>

Color Before:	 Clarity Before:		Texture:	
Color After:	 Clarity After:		Artifacts:	
Comments:		<u> </u>		

Form I - IN

EPA SAMPLE NO. SHALE-C1-R1

Lab Name:	Adirondacl	Environmenta	1 Cor	tract:	2010 MACT CE		
Lab Code:	AES	Case No.:	NO 1001	SAS No.:		SDG No.:	LLGF-C1-R1
Matrix (soi	l/water):	SOIL	<u> </u>	Lab	Sample ID:	101021050-	-007A
Level (low/	med): <u>L</u>	OW		Date	Received:	10/21/2010)

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

CAS No.	Analyte	Concentration	c	Õ	М
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.7		1	P
7440-43-9	Cadmium	0.31	U	N	P
7440-47-3	Chromium	64.2		<u> </u>	P
7440-50-8	Copper	48.6	Ī	E	P
7439-97-6	Mercury	0.02	В	N	cv
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	39.2	1		P
7440-66-6	Zinc	68.3	T	И×Е	P

Color Before:	 Clarity Before:	Texture:	
Color After:	Clarity After:	Artifacts:	
Comments:		 · · · · · · · · · · · · · · · · · · ·	
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Form I - IN

EPA SAMPLE NO. SHALE-C1-R2

Lab Name:	Adirondack	Environmenta	al Cor	ntract:	2010 MACT CP	<u> </u>	
Lab Code:	AES	Case No.:	NO 1001	SAS No.:		SDG No.:	LLGF-C1-R1
Matrix (soil	l/water):	SOIL		<u>Lab</u>	Sample ID:	101021050	-008A
Level (low/r	med): <u>LO</u>	₩		Dat	e Received:	10/21/201	0

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

CAS No.	Analyte	Concentration	С	δ	М
7440-38-2	Arsenic	11.96	Ū	N	P
7440-41-7	Beryllium	2.0	Τ	[P
7440-43-9	Cadmium	0.31	Ū	N	P
7440-47-3	Chromium	76.7	Τ		P
7440-50-8	Copper	75.0]	E	P
7439-97-6	Mercury	0.05	1	и	cv
7439-92-1	Lead	11.58	Ū	N	P
7440-02-0	Nickel	38.0	Ī		P
7440-66-6	Zinc	109		N*E	P

Color Before:		Clarity Before:	 Texture:	
Color After:		Clarity After:	 Artifacts:	
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Form I - IN

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Lab Name:	Adirondack Environmental	Contract: 2010 MACT CE	T
Lab Code:	AES Case No.: NO 100	1 SAS No.:	SDG No.: LLGF-C1-R1
Matrix (soi	1/water): SOIL	Lab Sample ID:	101021050-009A
Level (low/	med): LOW	Date Received:	10/21/2010
% Solids:	100.0		

5 BOIIGS: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	С	Q	М
7440-38-2	Arsenic	11.96	υ	N	P
7440-41-7	Beryllium	2.1	T	1	P
7440-43-9	Cadmium	0.31	U	N	P
7440-47-3	Chromium	78.6	Ī	1	P
7440-50-8	Copper	47.3	[E	P
7439-97-6	Mercury	0.06	T	N	cv
7439-92-1	Lead	11.58	ַט	N	P
7440-02-0	Nickel	34.8	T	Ī	P
7440-66-6	Zinc	65.0		N*E	P

Color Before:	 Clarity Before:	 Texture:	
Color After:	 Clarity After:	 Artifacts:	
Comments:			

Form I - IN

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO. SHALE-C2-R1

Lab Wame:	Adirondack	Environmenta	<u>al</u>	Contract:	2010 MACT	CPT	
Lab Code:	AES	Case No.:	NO 1001	SAS No.:		SDG No.:	LLGF-C1-R1
Matrix (soi	l/water):	SOIL		Lab	Sample ID:	101021050	0-010A
Level (low/	med): <u>LC</u>	DW		Dat	e Received:	10/21/20	10
% Solids:	100 0						

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

CAS No.	Analyte	Concentration	С	Q	М
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	2.0	1	1	P
7440-43-9	Cadmium	0.31	U	и	P
7440-47-3	Chromium	71.9	1	1	P
7440-50-8	Copper	50.5	1	E	P
7439-97-6	Mercury	0.05	1]N	CV
7439-92-1	Lead	11.58	ט	И	P
7440-02-0	Nickel	41.0		Ι	P
7440-66-6	Zinc	136		N*E	P

Color Before:	 Clarity Before:		Texture:	1
Color After:	 Clarity After:	**************************************	Artifacts:	
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Form I - IN

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EPA SAMPLE NO. SHALE-C2-R2

					1	
Lab Name:	Adirondack	Environmental	Contract	2010 MACT CP	r —	
Lab Code: `	AES	Case No.: NO	0 1001 SAS	No.:	SDG No.:	LLGF-C1-R1
Matrix (soil	/water):	SOIL		Lab Sample ID:	101021050	-011A
Level (low/m	ed): <u>LO</u>	<u> </u>		Date Received:	10/21/201	0
% Solids:	100.0					
		Concentration [Jnits (ug/L or	mg/kg dry weight):	MG/I	KG

CAS No.	Analyte	Concentration	С	Ō	м
7440-38-2	Arsenic	11.96	Ū	N	P
7440-41-7	Beryllium	1.9]	P
7440-43-9	Cadmium	0.35	В	N	P
7440-47-3	Chromium	64.7	1	1	P
7440-50-8	Copper	51.1		E	P
7439-97-6	Mercury	0.02	B	N	CV
7439-92-1	Lead	11.58	U	И	P
7440-02-0	Nickel	41.9			P
7440-66-6	Zinc	72.1		N*E	P

Color Before:		Clarity Before:		Texture:	
Color After:		Clarity After:		Artifacts:	
Comments:	****				
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Form I - IN

EPA SAMPLE NO. SHALE-C2-R3

								SHALE-C2-R3
Lab Name:	Adironda	ck Environment	al Contr	act: 2010 MACT	CP'	r		
Lab Code:	AES	Case No.:	NO 1001 SZ	AS No.:		SDG 1	No.:	LLGF-C1-R1
Matrix (soi	l/water):	SOIL		Lab Sample ID	:	1010	21050	-012A
Level (low/	med):	LOW		Date Received	:	10/2	1/201	0
% Solids:	100.0	-						
		Concentrati	on Units (ug/L	or mg/kg dry weigh	ıt):		MG/I	KG
		CAS No.	Analyte	Concentration	С	Õ	М	
		7440-38-2	Arsenic	11.96	Ū	N	 P	
		7440-41-7	Beryllium	1.7	T	Ī	P	Ī

0.80 B N

В

E

N

N

N*E

61.5

76.6

0.02

15.7

32.8

516

P

Þ

P

CV

P

P

Р

Cadmium

Chromium

Copper

Mercury

Lead

Zinc

Nickel

7440-43-9

7440-47-3

7440-50-8

7439-97-6

7439-92-1

7440-02-0

7440-66-6

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Form I - IN

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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1-R1

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1001

SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

101021050-001

Level (Low/Med):

Low

Date Received:

10/21/10

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value	14605			ASTM D240-76
Ash	12.1			ASTM D482
Total Chlorine (IC)	10610		N	ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	12450		N	ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9898			ASTM D1298
		 	<u> </u>	
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Comments	

FORM I - CONV

1 CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1-R2

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1001 SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

101021050-002

Level (Low/Med):

Low

Date Received:

10/21/10

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value	10125			ASTM D240-76
Ash	11.8			ASTM D482
Total Chlorine (IC)	18100		N	ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	18290		N	ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	1.0095			ASTM D1298
		 		
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Comments		
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FORM I - CONV

1

CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1-R3

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1001

SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

101021050-003

Level (Low/Med):

Low

Date Received:

10/21/10

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value	9755			ASTM D240-76
Ash	12.4			ASTM D482
Total Chlorine (IC)	18370		N	ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW~846 7.3.2.1
Total Chlorine (Titration)	19200		N	ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9922			ASTM D1298
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Comments	

FORM I - CONV

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CONVENTIONALS ANALYSIS DATA SHEET

LAB NAME: Adirondack Environmental

CONTRACT:

LLGF-C2-R1

LAB CODE: AES

Case No.:

NO 1001

SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

101021050-004

Level (Low/Med):

Low

Date Received:

10/21/10

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value	9480	1		ASTM D240-76
Ash	11.5			ASTM D482
Total Chlorine (IC)	17860		N	ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	18710		N	ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	1.0736			ASTM D1298
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Comments	

FORM I - CONV

1

CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C2-R2

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1001

SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

101021050-005

Level (Low/Med):

Low

Date Received:

10/21/10

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/K.g

Analyte	Concentration	С	Q	Method
Heating Value	9643			ASTM D240-76
Ash .	11.4			ASTM D482
Total Chlorine (IC)	19220		N	ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	20860		N	ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	1.0754			ASTM D1298
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Comments	

FORM I - CONV

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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C2-R3

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1001

/ SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

101021050-006

Level (Low/Med):

Low

Date Received:

10/21/10

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value	9704			ASTM D240-76
Ash	- 11.7			ASTM D482
Total Chlorine (IC)	18760		N	ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	19840		N	ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	1.0767			ASTM D1298

Comments	

FORM I - CONV

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CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1-R.1

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1001

SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Solid

Lab Sample ID:

101021050-007

Level (Low/Med):

Low

Date Received:

10/21/10

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	Ŭ		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity		<i>"</i>		ASTM D445
Density @ 22 C				ASTM D1298

Comments	

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1 CONVENTIONALS ANALYSIS DATA SHEET

Shale-C	1 70 2	

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1001

SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Solid

Lab Sample ID:

101021050-008

Level (Low/Med):

Low

Date Received:

10/21/10

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value		†		ASTM D240-76
Aslı				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide		1		SW-846 7.3.3
Reactive Sulfide		1		SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298
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Comments	

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1 CONVENTIONALS ANALYSIS DATA SHEET

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Sha	le-C1	-R3

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1001

SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

101021050-009

Level (Low/Med):

Low

Date Received:

10/21/10

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298
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Comments	
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CONVENTIONALS ANALYSIS DATA SHEET

LAB NAME: Adirondack Environmental

CONTRACT:

Shale-C2-R1

LAB CODE: AES

Case No.:

NO 1001

SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Liquid Waste

Lab Sample ID:

101021050-010

Level (Low/Med):

Low

Date Received:

10/21/10

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide			-	SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298
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Comments	

FORM I - CONV

1

CONVENTIONALS ANALYSIS DATA SHEET

Shale-C2-R2

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1001

SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Solid

Lab Sample ID:

101021050-011

Level (Low/Med):

Low

Date Received:

10/21/10

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value				ASTM D240-76
Aslı				ASTM D482
Total Chlorine (IC)	234	Ū		EPA 5050/9056
Flash Point			,	EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide	,			SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments	

FORM I - CONV

1

CONVENTIONALS ANALYSIS DATA SHEET

Shale-C2-R3

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE: AES

Case No.:

NO 1001

SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Solid

Lab Sample ID:

101021050-012

Level (Low/Med):

Low

Date Received:

10/21/10

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Concentration	С	Q	Method
Heating Value	,	1		ASTM D240-76
Ash			1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298
·				

Comments	

FORM I - CONV

DUPLICATES

							SZ	AMPL	e no.		
							LLG	F-CI	-R1 BDP		
Lał	Name: Adiron	dack Environ	ental	Contract:	2010	MACT CPT			<u></u>		
Lai	Code: AES	Case No.	: <u>NO 1021</u>	_ SAS No	o.;		SDG No.:	LI	GF-C1-R	1	
Mat	rix (soil/water)	: SOIL		Level (1	ow/me	∃): <u>LOV</u>	7				
% S	Solids for Sample	: _100.0	-	Solids for	Dupl	icate:	100.0				
_		Concentrati	on Units (ug	/L or mg/kg	grð	weight):	MG/F	ΚG	<u> </u>		
Ĵ	Analyte	Control Limit	Sample (S	`	С	Duplicate	(D)	c	RPD		
Ĺ	Mercury		supre (s	0.3100		Dubricate	0.2320		28.8	*	CV CV

Form VI - IN

ILM04.2

DUPLICATES

SAMPLE	NO.	
LLGF-C1	-R1DP	

1.4

Ρ

1248.9960

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1 Level (low/med): LOW Matrix (soil/water): SOIL % Solids for Duplicate: 100.0 % Solids for Sample: 100.0 Concentration Units (ug/L or mg/kg dry weight): MG/KG Control Analyte Limit Sample (S) С Duplicate (D) RPD М Arsenic 28.1582 P 28.9388 2.7 Beryllium 0.1200 В 0.0852B P 33.9 Cadmium 53.4412 Ρ 53.8830 0.8 Chromium 375.4938 P 365.0119 2.8 Copper 1227.8180 1216.5810 ₽ 0.9 Mercury СV 1.7201 13.0 1.5100 Lead 1045.5420 P 1049.6470 0.4 Nickel 895.3947 901.2617 ₽ 0.7

1231.0700

Zinc

DUPLICATES

O.F.	METIN	140.	
SHA	LE-C1	L-R1DP	

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight):

MG/KG .

	Concentrat	ion Units (ug/L or mg/kç	gdry	y weight): MG/	L/C			
Analyte	Control Limit	Sample (S)	С	Duplicate (D)	c	RPD	Q	М
Arsenic	3.0	11.96	ט	11.96	ט			P
Beryllium	1.5	1.7241		1.8341		6.2		P
Cadmium		0.31	U	0.31	υ			P
Chromium		64.1580		71.4264		10.7		P
Copper		48.6487		53.1143		8.8		₽
Mercury		0.0200	В	0.0140	В	35.3		CV
Lead		11.58	U	11.58	บ			P
Nickel	11.8	39.1643		41.3515		5.4		Р
Zinc		68.2825		85.5171		22.4	*	P

Form VI - IN

6 **DUPLICATES**

Y	Y	~ 1	∇

LAB NAME:

Adirondack Environmental

CONTRACT:

LLGF-C1-R2

LAB CODE:

AES

Case No.:

NO 1001 SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Liquid Waste

Level (Low/Med):

Low

% Solids for Sample:

0.0

% Solids for Duplicate:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

1 .	Control							
Analyte	Limit	Commis (C)		D1:(D)	_	0.75		3.6
	% R	Sample (S)	C	Duplicate (D)	С	% R	Q	M
Heating Value		10125		9835		2.9		
Ash								
Total Chlorine (IC)		17730		18390		3.7		
Flash Point								
Corrosivity								
Reactive Cyanide								
Reactive Sulfide								
Reactivity								
Total Chlorine (Titration)		18290		18700		2.2		
Total Cyanide								
Kinematic Viscosity								
Density @ 22 C		1.0095		1.0181		0.8		
······································								
						.,,,		

Comments	This analysis was a pre-preparation duplicate.	 	<u> </u>	
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			•	
	FORM VI - CONV			

NO 1001

6 **DUPLICATES**

C1	~1 _~	C2	D	2

LAB NAME:

Adirondack Environmental

CONTRACT:

LAB CODE:

AES

Case No.:

SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Solid

Level (Low/Med):

Low

% Solids for Sample:

0.0

% Solids for Duplicate:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Control Limit							
	% R	Sample (S)	С	Duplicate (D)	С	% R	Q	M
Heating Value								
Ash								
Total Chlorine (IC)		186	U	194	U	NC		
Flash Point								
Corrosivity								
Reactive Cyanide								
Reactive Sulfide								
Reactivity								
Total Chlorine (Titration)								
Total Cyanide								
Kinematic Viscosity								
Density @ 22 C								

. Comments	This analysis was a pre-preparation duplicate.	
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FORM VI - CONV

6 **DUPLICATES**

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LAB NAME:

Adirondack Environmental

CONTRACT:

LAB CODE:

AES

Case No:

NO 1001

SAS No.:

SDG No.: LLGF-C1-R.1

Matrix (soil/water):

Liquid Waste

Level (Low/Med):

Low

% Solids for Sample:

0.0

% Solids for Duplicate:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

%

	Control							
Analyte	Limit							
	% R	Sample (S)	С	Duplicate (D)	С	% R	Q	M
Heating Value								
Ash		12.1		12.2		0.8		,
Total Chlorine (IC)								
Flash Point								
Corrosivity								
Reactive Cyanide			1					
Reactive Sulfide								
Reactivity								
Total Chlorine (Titration)								
Total Cyanide		- III						
Kinematic Viscosity			<u> </u>					
Density @ 22 C								
		 	<u> </u>					
	* ,	-						
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								<u> </u>

Comments	This analysis was a pre-preparation duplicate.	

FORM VI - CONV

SAMPLE	NO.

LLGF-C1-R1MS	
TITGE OCTORING	

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES

Case No.: NO 1001

SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL

Level (low/med):

LOW

% Solids for Sample:

87.9

Concentration Units (ug/L or mg/kg dry weight):

MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added	(SA)	8R	Q	м
Mercury	75 ~ 125			1.7201		I	0.46	88.0		CV

Comments:	
- A	

Form V (PART 1) - IN

SAMPLE NO.

									page					
									Ŀ		LLGF-C	:1-R1 E	MS	
Lab	Name:	Adirond	lack Envi	ronmenta	1	Con	tract:	2010	MACT C	PT				
Lab	Code:	AES	Case	No.: NO	1021	SAS No	·.:		_ :	SDG No.	: LL	GF-C1-	R1	
		il/water or Sample		, ,		Level	(low/me	ed):	LOW					
			Cor	ncentrati	on Units	(ug/Ļ c	r mg/kg	dry we	eight):		MG/KG	•		
	Ana	lyte.	Control Limit %R	1 _~	Sample (SSR)	С	Sam Resul	ple t (SR)	С	Spike Added		8R	Ç	2 M
	Mer	cury	75 - 12	5	0.5	300		0.3	loor	<u> </u>	0.40	55	nln	(57

Comments:

Form V (PART 1) - IN

ILM04.2

SAMPLE NO.

							LLGF	-C2-R1MS		
Lab N	Name: Adirono	lack Envir	onmental	Cor	trect: 2010 MAC	r c	PT			
Lab C	ode: <u>AES</u>	Case N	No.: <u>NO 1001</u> SA	s No	o.:		SDG No.: LI	GF-C1-R1		
	x (soil/water			ve.I	(low/med): LOW					
		Con	centration Units (ug	/L	or mg/kg dry weigh	t):	_MG/K			
	Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Õ	м
	Arsenic		37.9892		36.9011		0.545	199.7		₽
	Beryllium		0.4711	В	0.5058	В	0.022	-157.7		P
	Cadmium	l l	62.4569		61.8158		0.022	2914		P
	Chromium		507.7174		508.4688	1	0.131	-573.6	Ī	Р
	Copper		1287.2290		1251.7190		0.109	32578	Ī	Р
	Lead		1042.3770		1018.1080	ĺ	0.153	15862	Ī	₽
	Nickel		959.3932		939.3381		2.66	754	Π	Р
	Zinc]	1353.4900		1325.1590	1	0.200	14166		Р

Comments:			
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	

Form V (PART 1) - IN

ILMQ4.2

SAMPLE NO.

LLGF-C2-R1MS2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Level (low/med): LOW

100.0 % Solids for Sample:

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA	.)	%R	Õ	м
Arsenic	75 - 125	151.1548	j	36.9011] 1	16	98.5		Р
Beryllium	1	1.1348	в	0.5058	В	0.	00		Ī	Р
Cadmium	75 - 125	181.9311	- 1	61.8158		1	16	103.6		P
Chromium	75 - 125	1575.3240		508.4688		23	21	46.0	N	P
Copper	75 - 125	3620.8020		1251.7190		23	21	102.1		P
Lead	75 - 125	3472.3570	Ī	1018.1080	<u> </u>	23	21	105.7		P
Nickel	75 - 125	3094.1470		939.3381		23	21	92.8		P
Zinc	75 - 125	3248.3170		1325.1590		23	21	82.9		P

Comments:			
	 	 	·

Form V (PART 1) - IN

								_		SAM	PLE NO.		
										SHAL	E-C1-RIS		
Lab Na	ame: <u>Ad</u>	ironda	ack Envir	onmental	Con	tract:	2010 M	CT C	PT				· · · · · ·
Lab Co	ode: <u>AE</u>	s	_ Case N	o.: <u>NO 1001</u>	SAS No	o.:		:	SDG No.	: LL	GF-C1-R1		
Matriz	(soil/	water)	: SOIL		Level	. (low/me	ed): L	OW					
% Soli	ds for	Sample	: 100.0				_						,
			Conc	entration Uni	ts (ug/L	or mg/kg	dry wei	ght):	-	MG/KG	.		
	Analyt		Control Limit %R	Spiked Sampl Result (SSR)	e C	1	ple t (SR)	С	Spike Added		%R	ō	м
j	Mercur	У	75 - 125	(7720		0.020	00 B	[0.40	188.0	N	CV

Comments:

Form V (PART 1) - IN

SAMPLE	NO.
SHALE-C2	

						Ŀ				
Lab N	Tame: Adiron	dack Envir	onmental	_ Con	tract: <u>2010</u>	MACT C	PT			
Lab C	Code: AES	Case N	io.: <u>NO 1001</u>	SAS No	·.:	_	SDG No.: L	LGF-C1-R1		
Matri	x (soil/water	:): <u>SOIL</u>		Level	(low/med):	LOW				
% Sol	ids for Sampl	e: <u>100.0</u>				-				
		Con	centration Units	(ug/L d	or mg/kg dry w	veight):	_MG/K	G		
	Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	, с	Spike Added (SA)	%R	Õ	м
	Arsenic	l	12.5	281	1	1.96 U	0.547	7 2290	Ť	P
	I TO		1				1	· · · · · · · · · · · · · · · · · · ·		

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	&R	Õ	м
Arsenic	l	12.5281		11.96	υ	0.547	2290		P
Beryllium		2.7382		1.9520		0.022	3574		P
Cadmium		0.9974	В	0.31	ט	0.022	4534		P
Chromium	1	106.5146		71.9454		0.131	26389		P
Copper		102.2390		50.4672		0.109	47497		P
Lead	1	18.8561		11.58	U	0.153	12324		₽
Nickel	1	50.2538		41.0124		2.668	346.4		₽
Zinc	1	119.0428		135.8068		0.197	-8510		₽

Comments:		
	:	

Form V (PART 1) - IN

	***************************************		****
SHAI	E-C2-R	1MS2	

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	%R	Q	м
Arsenic	75 ~ 125	11.7974		11.96	υ	18.19	64.9	И	P
Beryllium	75 - 125	4.8350		1.9520]	2.897	99.5		P
Cadmium	75 - 125	1.5448	B	0.31	σ	0.842	183.5	И	P
Chromium	75 - 125	160.4174		71.9454		87.57	101.0	Ī	P
Copper	75 - 125	208.9418]	50.4672		151.57	104.6	Ī	P
Lead	75 - 125	124.8152	j	11.58	σ	27.96	446.4	И	Ъ
Nickel	75 - 125	97.9415		41.0124		64.00	89.0		P
Zinc	75 - 125	256.7848]	135.8068		185.25	65.3	И	P

Comments:		

Form V (PART 1) - IN

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

Lab Name:	Adirondack	Environmental	Contract:	2010 MAC	r CPT	
Lab Code:	AES	Case No.: <u>NO 1001</u>	SAS No.:		SDG No.:	LLGF-C1-R1
Matrix (soi	l/water):	SOIL	Lev	el (low/me	d): LOW_	

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added(SA)	&R	ō	м
Arsenic		160.24		90.44		80.0	87.2		Ē
Beryllium		100.14		0.39	В	100.0	99.8		F
Cadmium		270.26		171.65		100.0	98.6		P
Chromium		1577.72		1206.09		400.0	92.9		E
Copper		4393.04		3943.75		500.0	89.9		Ē
Lead		3334.33		3358.28		40.0	-59.9		E
Nickel		3828.29		2876.01		1000.0	95.2		E
Zinc		4801.55		3954.20		1000.0	84.7		E

Comments:	
	-
	-

Form V (PART 2) - IN

ILM04.2 : 00052

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

Lab	Name:	Adirondack	Environmen	tal	Contract:	2010 MAC	r cpr	
Lab	Code:	AES	Case No.: N	NO 1001	SAS No.:		SDG No.:	LLGF-C1-R1
Matz	ix (soi	l/water):	SOIL		Lev	el (low/me	d): LOW	r

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added(SA)	%R	Õ	м
Arsenic		65.22		1.50	υ	80.0	81.5		P
Beryllium		106.78		5.83		100.0	101.0		P
Cadmium		102.44		0.90	В	100.0	101.5		P
Chromium		641.96		216.85		400.0	106.3		P
Copper		702.08		164.43		500.0	107.5		P
Lead		76.10		1.93	U	40.0	190.2		P
Nickel		1113.07		132.38		1000.0	98.1		P
Zinc		1237.90		230.79		1000.0	100.7		P

Comments:	
*	

Form V (PART 2) - IN

ILM04.2 : @@@53

5 SPIKE SAMPLE RECOVERY

SAMPLE RECOVERY	
	LLGF-C1-R2

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE:

AES

Case No.:

NO 1001

SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Liquid Waste

Level (Low/Med):

Low

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Control Limit % R	Spiked Sample Result (SSR)	С	Sample Result (SR)	С	Spike Added (SA)	% R	Q	M
Heating Value									
Ash									
Total Chlorine (IC)	75-125	24570		17730		4630	148	N	
Flash Point									
Corrosivity									
Reactive Cyanide									
Reactive Sulfide									
Reactivity									
Total Chlorine (Titration)	75-125	24650		18290		4630	137	N	
Total Cyanide					\Box				
Kinematic Viscosity									
Density @ 22 C									
F1									
									•

Comments	 This analys	is was a pre-	preparation	spike. T	he spike wa	s added befo	re bombing.	_
	 						-	

FORM V (Part 1) - CONV

5 SPIKE SAMPLE RECOVERY

Sha	le-1	۲٦.	٦.

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE:

AES

Case No.:

NO 1001

SAS No.:

SDG No.: LLGF-C1-R1

Matrix (soil/water):

Solid

Level (Low/Med):

Low

% Solids:

0.0

Concentration Units (ug/L or mg/Kg dry weight):

mg/Kg

Analyte	Control Limit % R	Spiked Sample Result (SSR)	С	Sample Result (SR)	O	Spike Added (SA)	% R	Q	М
Heating Value									
Aslı									
Total Chlorine (IC)	75-125	1240		186	U	1420	87		
Flash Point									
Corrosivity									
Reactive Cyanide									
Reactive Sulfide									
Reactivity									
Total Chlorine (Titration)									
Total Cyanide									
Kinematic Viscosity									
Density @ 22 C									
					ļ				
						<u></u>			
						<u> </u>		<u> </u>	
							<u> </u>		

Comments	This analysis was a pre-preparation spike. The spike was added before bombing.	

FORM V (Part 1) - CONV

Lab Name: Adirono	ack Environmen	tal	Con	tract:	2010 M	ACT CPT	····	
Lab Code: AES	Case No.:	NO 1021	SAS No.	:		_ SDG No.	: LLGF-C1-R1	
Preparation Blank)	•		TER mg/kg):	ספ/	L			
Analyte	Initial Cal.ib. Blank (ug/L) C	1 0	Continuing Blank (ion 3	ll ll	Preparation Blank C	м
Mercury	0.06 U	กกรไบ	1 0.	06 I UI		<u></u>	م محمل تت	CV

Form III - IN

ILM04.2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1 Preparation Blank Matrix (soil/water): Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG Initial Continuing Calibration Calib. Preparation Blank (ug/L) Blank Blank (ug/L)Analyte ¢ М C С С C 0.06|0 0.06 U 0.06| บ CV

Form III - IN

ILM04.2

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0.012

: 00057

Mercury

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Preparation Blank Matrix (scil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

	Initial Calib. Blank (ug/L)			Co	ontinuing Cal Blank (ug/		ration		Preparation Blank		
Analyte	(ug/L)	С	1	C	2	С	3	С		C	M
Arsenic	1.5	บ	1.5	ן ט	1.5	Ū	1.5	U	0.075	Ü	P
Beryllium	0.1	U	0.1	Ū	0.1	U	0.1	ט	0.007	U	P
Cadmium	0.1	U	0.1	U	0.1	ט	0.1	ט	0.034	В	P
Chromium	4.7	U	4.7	Ü	4.7	U	4.7	U	0.234	U	P
Copper	2.5	U	2.5	U	2.5	Ū	2.5	ש	0.130	В	P
Mercury	0.06	υ	0.06	U					0.012	U	CV
Lead	1.9	Ũ	1.9	Ū	1.9	บ	1.9	ט	0.097	U	P
Nickel	0.6	U	0.6	ט	0.6	Ū	0.6	ט	0.028	U	P
Zinc	0.8	Ū	0.8	Ū	0.8	Ū	0.8	ט	0.163	В	P

Form III - IN

Lab Name:	Adirondack En	vironmental	L	Contract	: 2010 MACT (CPT	
Lab Code:	AES	Case No.: <u>1</u>	10 1001	SAS No.:	sdg	No.:	LLGF-C1-R1
Preparation	Blank Matrix	(soil/water)	: WATER				
Preparation	Blank Concent	xation Units	(ug/L or mg,	/kg): [JG/L		

	Initial Calib. Blank			Co	ntinuing Blank (ition		Preparation Blank		
Analyte	(ug/L)	С	l	C	2		С	3	С		C	М
Arsenic			1.5	וטן	1	.5	U	1.7	В	_	1	P
Beryllium	1		0.2	B	0	. 2	В	0.3	В		İ	P
Cadmium	T		0.1	[ט]	0	.2	В	0.1	U		ĺ	P
Chromium			4.7	וטן	4	.7	U	4.7	υ		İ	P
Copper		İ	2.5		2	. 5	ប	3.6	В		i	P
Lead	-		1.9	[ט	1	. 9	บ	4.2			ĺ	P
Nickel			0.6	וטן	0	. 6	ប	0.6	Ū		i	P
Zinc			0.8	U	0	. 8	ប	0.8	υ		<u> </u>	P

Form III - IN

ILM04.2

Lab Name: 1	Adirondack En	vironmenta	1	Contract	: 2010 MACT CPT	
Lab Code:	AES	Case No.:	NO 1001	SAS No.:	SDG No.:	LLGF-C1-R1
Preparation	Blank Matrix	(soil/water): SOIL			
Preparation	Blank Concent	ration Unit	s (ug/L or mg/	/kg):	MG/KG	

	Initial Calib. Blank			Continuing Calibration Blank (ug/L)					Preparation Blank	
Analyte	(ug/L)	c	1 ,	С	2	С	3	¢	С	M
Arsenic	1.5	Ū	1.5	U	1.5	Ū	1.5	Ü	0.075 ט	P
Beryllium	0.1	υ	0.1	σŢ	0.4	В	0.4	В	ט 0.007 ס	P
Cadmium	0.1	σ	0.1	ūΪ	0.1	U	0.1	ש	0.052 B	P
Chromium	4.7	U	4.7	υŢ	4.7	Ü	4.7	υ	0.234 U	P
Copper	2.5	U	2.5	ט	2.5	U	2.5	υ	0.126 0	P
Mercury	0.06	U	0.06	U	0.06	U			0.012 0	CV
Lead	1.9	υ	1.9	J	1.9	U	1.9	Ū	0.097 U	P
Nickel	0.6	U	0.6	Ü	0.6	ט	0.6	Ū	0.028 ប	P
Zinc	0.8	U	0.8	υŢ	0.8	U	0.8	U	0.115 B	P

Form III - IN

ILM04.2

 Lab Name:
 Addirondack Environmental
 Contract:
 2010 MACT CPT

 Lab Code:
 AES
 Case No.:
 NO 1001
 SAS No.:
 SDG No.:
 LLCF-C1-R1

 Preparation
 Blank Matrix (soil/water):
 WATER

 Preparation
 Blank Concentration Units (ug/L or mg/kg):
 UG/L

Initial Calib. Blank Analyta (ug/L)				Co	entinuing Blank (Preparation Blank						
Analyte	(gg/L)	С	1	С	2		С	3	C		С	м
Arsenic			1.5	וטן	1	.5	ַ װ	1.5	ប	Ĭ I		P
Beryllium		Ī	0.1	ט	0	.1	В	0.1	U			P
Cadmium			0.3	В	0	.3	В	0.1	U			P
Chromium			4.7	U	4	.7	υ	4.7	ט			P
Copper	T		2.5	U	2	.5	ט	2.5	ΰ	ĺ		P
Lead			1.9	וטן	1	. 9	וט	1.9	σ	Î		P
Nickel			0.6	В	0	. 6	ט	0.6	U			P
Zinc			0.8		0	. 8	ט	0.8	υ			P

Form III - IN

3 BLANKS

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE:

AES

Case No.: NO 1001

SAS No.:

SDG No.:

LLGF-C1-R1

Preparation Blank Matrix:

Liquid

Preparation Blank Concentration Units:

mg/Kg

Analyte	Initial Calib.		Continuing Calibration Prep. Blank						Method		
	Blank(ug/L)	C	1	С	2	С	3	С		С	
Heating Value											ASTM D240-76
Ash											ASTM D482
Total Chlorine (IC)	1000	Ū	1000	Ŭ	1000	Ū	1000	U	100	U	EPA 5050/9056
Flash Point											EPA 1010
Corrosivity											SW-846 7.2.2
Reactive Cyanide											SW-846 7.3.3
Reactive Sulfide											SW-846 7.3.4
Reactivity		" -									SW-846 7.3.2.1
Total Chlorine (Titration)									100	U	ASTM D808/9253
Total Cyanide											SW-846 9012
Kinematic Viscosity											ASTM D445
Density @ 22 C	:										ASTM D1298

Comments				
	···			
	·	 		

FORM III - CONV

3 BLANKS

LAB NAME: Adirondack Environmental

CONTRACT:

LAB CODE:

AES

Case No.: NO 1001

SAS No.:

SDG No.:

LLGF-C1-R1

Preparation Blank Matrix:

Liquid

Preparation Blank Concentration Units:

mg/Kg

Analyte	Initial Calib.			Cont	inuing C	alibra	ation		Prep Blan		Method
Milalyte	Blank(ug/L)	С	1	С	2	С	3	С	ומות	C	MCHIOG
Heating Value											ASTM D240-76
Ash								l			ASTM D482
Total Chlorine (IC)	1000	U	1000	U					100	U	EPA 5050/9056
Flash Point											EPA 1010
Corrosivity											SW-846 7.2.2
Reactive Cyanide											SW-846 7.3.3
Reactive Sulfide										, "	SW-846 7.3.4
Reactivity											SW-846 7.3.2.1
Total Chlorine (Titration)											ASTM D808/9253
Total Cyanide											SW-846 9012
Kinematic Viscosity											ASTM D445
Density @ 22 C											ASTM D1298
											7
										i	

Comments	

FORM III - CONV

SAMPLE DATA
PACKAGE



314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891 www.adirondackenvironmental.com

Case Narrative

Client: Norlite - MACT/CPT

Case: NO 1001

SDG: LLGF-C1-R1

Sample ID	<u>Laboratory Sample ID</u>	Date Received	<u>VTSR</u>	<u>Matrix</u>
LLGF-C1-R1	101021050-001	10/21/10	14:09	Liquid
LLGF-C1-R2	101021050-002	10/21/10	14:09	Liquid
LLGF-C1-R3	101021050-003	10/21/10	14:09	Liquid
LLGF-C2-R1	101021050-004	10/21/10	14:09	Liquid
LLGF-C2-R2	101021050-005	10/21/10	14:09	Liquid
LLGF-C2-R3	101021050-006	10/21/10	14:09	Liquid
Shale-C1-R1	101021050-007	10/21/10	14:09	Solid
Shale-C1-R2	101021050-008	10/21/10	14:09	Solid
Shale-C1-R3	101021050-009	10/21/10	14:09	Solid
Shale-C2-R1	101021050-010	10/21/10	14:09	Solid
Shale-C2-R2	101021050-011	10/21/10	14:09	Solid
Shale-C2-R3	101021050-012	10/21/10	14:09	Solid

The liquid waste and solid samples were reported as is (assumed 100 % solids) for all analyses.

This is an updated report to correct the metals results based on the client supplied information.

Inorganics - Total Metals (Liquid)

- 1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.
- 2) The element Beryllium had results below the method detection limits (MDL). A LLGF sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/18/10. The results of this MDL are provided after this case narrative. All results for the LLGF samples for Beryllium use the value from the MDL for the reporting limit.
- 3) Analysis for Mercury was performed using two different digestion procedures. The first procedure used EPA Method 7471. The second procedure used a portion of the Metals digestate from EPA 3050 followed by EPA Method 7470 (Labeled with a "B" at the end of the sample name on the data forms).



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- 4) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.
- 5) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel and Zinc for sample LLGF-C2-R1 (AES sample number 101021050-004) spiked at 3 times the MDL was outside the required 75-125 % limits. This was due to the level in the sample that was much higher than the level of the spike added. At the levels spiked accurate recovery is not possible. The digested spike recovery for the element Chromium for sample LLGF-C2-R1 (AES sample number 101021050-004) spiked at 2 times the sample concentration was outside the required 75-125 % limits. The results for this element are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.
- 6) The digested spike recovery for the element Mercury (SW-846 3050/7470) for LLGF-C1-R1 B (AES sample number 101021050-001) was outside the required 75-125 % limits. The results for this element are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.
- 7) The element Arsenic for sample LLGF-C1-R1 (AES sample number 101021050-001) did not meet the serial dilution criteria of 10 %. This element is flagged with an "E" as required by the protocol. The "E" denotes an estimated value. This indicates a possible chemical or physical interference.
- 8) The recovery between sample LLGF-C1-R1 B (AES sample number 101021050-001) and the duplicate sample for the element Mercury (SW-846 3050/7470) was outside the required limits for sample duplication. This element is flagged with an "*" as required by the protocol. The %RPD for this analyte was less than the 35 % specified in the QAPP.

Inorganics - Total Metals (Solid)

1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.



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- 2) The elements Arsenic, Cadmium and Lead had results below the method detection limits (MDL). A Shale sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/16/10. The results of this MDL are provided after this case narrative. All results for the Shale samples for Arsenic, Cadmium and Lead use the value from the MDL for the reporting limit.
- 3) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.
- 4) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel and Zinc for sample SHALE-C2-R1 (AES sample number 101021050-010) spiked at 3 times the MDL was outside the required 75-125 % limits. This was due to the level in the sample that was much higher than the level of the spike added. At the levels spiked accurate recovery is not possible. The digested spike recovery for the elements Arsenic, Cadmium, Lead and Zinc for sample SHALE-C2-R1 (AES sample number 101021050-010) spiked at 2 times the sample concentration was outside the required 75-125 % limits. The results for these elements are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.
- 5) The digested spike recovery for the element Mercury for SHALE-C1-R1 (AES sample number 101021050-007) was outside the required 75-125 % limits. The results for this element are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.
- 6) The elements Copper and Zinc for sample SHALE-C1-R1 (AES sample number 101021050-007) did not meet the serial dilution criteria of 10 %. These elements are flagged with an "E" as required by the protocol. The "E" denotes an estimated value. This indicates a possible chemical or physical interference.
- 7) The recovery between sample SHALE-C1-R1 (AES sample number 101021050-007) and the duplicate sample for the element Zinc was outside the required limits for sample duplication. This element is flagged with an "* " as required by the protocol. The %RPD for this analyte was less than the 35 % specified in the QAPP.



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Inorganics

- 1) The samples were submitted for various physical characteristics. The Chlorine results were reported from the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples and by Bomb preparation method (ASTM D808) followed by both Ion Chromatography (EPA 9056) and Titration (EPA 9253) for the LLGF Samples. The analysis for Titration (EPA 9253) for the LLGF Samples was sub-contracted to Certified Environmental Laboratory for analysis. Copies of the data for this sub-contracted analysis is presented after the raw data for analysis conducted by Adirondack Environmental Services.
- 2) The Bomb preparation blank for Chlorine was an accurately weighed amount of Iso-octane carried through the entire Bomb preparation and sample analysis. The ratio of the blank result versus the amount of Iso-octane added for the sample preparation was subtracted from the results. The Shale samples were the only samples that had the Iso-octane added during preparation since these samples would not ignite on their own.
- 3) Peak area was used to calculate all Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples appearing in this data package.
- 4) Retention time windows for Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples use +/- 3 times the standard deviation of the standards about the mean retention time.
- 5) A Method Detection Limit (MDL) study was performed for Chlorine using the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples. The results of this MDL are provided after this case narrative.
- 6) Density was performed at ambient temperature.
- 7) Sample LLGF-C1-R2 (AES sample number 101021050-002) was used for the matrix spike for Chlorine on the LLGF samples. The recovery for Chlorine was outside acceptable limits. The recovery for the Chlorine spike by ASTM 808/9056 was 148 %. The recovery for the Chlorine spike by ASTM 808/9253 was 137 %. The results for this analyte are flagged with an "N" as specified by the protocol. This indicates possible matrix interference
- 8) Sample Shale-C2-R3 (AES sample number 101021050-012) was used for the pre-preparation matrix spike for Chlorine on the Shale samples. This spike was added prior to the bomb preparation step. The recovery for EPA Method 5050/9056 was 87 %.



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- 9) Sample LLGF-C1-R2 (AES sample number 101021050-002) was used for the duplicate for the LLGF samples, except for Ash analysis. All recoveries were within required limits.
- 10) Sample LLGF-C1-R1 (AES sample number 101021050-001) was used for the duplicate for the LLGF samples for Ash analysis. All recoveries were within required limits.
- 11) Sample Shale-C2-R3 (AES sample number 101021050-012) was used for the pre-preparation duplicate for Chlorine on the Shale samples. All recoveries were within required limits.
- 12) The following lists the analyses and the units in which the results are reported.

Analyte	Reporting Units
% Ash	%
Heating Value	btu/lb
Chlorine (5050/9056 and ASTM D808/9056)	mg/Kg
Chlorine (ASTM D808/9253)	mg/Kg
Density	g/ml

"I certify that this data package is in compliance with the terms and conditions of the protocol, both technically and for completeness, to the best of my knowledge, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Laboratory Manager

Date: 1/25/11

Albany, NY

Sample Packing and Traceability List

	Site of Program:		101	01/	Project Location:	Cohoes, NY	P.O. #:	N/A
	Type of Program	rogram;	Date Shipped: De/I vena	nad	Laboratory:	Adirondack		
	Project #:		=		Test Conditions:	C1 = Condition 1	ı	
	Program Office:	Office: Westford, MA	Recovery: Fred Sanguedolce	dofce		C2 ≈ Candition 2		
	Program Contact		The state of the s		FedEx Air Bill #:	Hand Delivered		
	Item	Sample ID Code	Sample Matrix	Sample	Sample Description	Analitical Parameters	meters	Special Instructions
- 20 20	1	LLGF-C1-R1	Organic Liquid	Liquid Low Grade Fuel C1, Run	Fuel C1, Run 1	See Notes 1 and 3		
200	2	LLGF-C1-R2	Organic Liquid	Liquid Low Grade Fuel C1, Run 2	Fuel C1, Run 2	See Notes 1 and 3		
500	3	LLGF-C1-R3	Organic Liquid	Liquid Low Grade Fuel C1, Run 3	Fuel C1, Run 3	See Notes 1 and 3		
604	4	LLGF-C2-R1	Organic Liquid	Liquid Low Grade Fuel C2, Run 1	Fuel C2, Run 1	See Notes 1 and 3		
SOS	5	LLGF-C2-R2	Organic Liquid	Liquid Low Grade Fuel C2, Run 2	Fuel C2. Run 2	See Notes 1 and 3		
<u>၂</u>	9	LLGF-C2-R3	Organic Liquid	Liquid Low Grade Fuel C2, Run 3	Fuel C2, Run 3	See Notes 1 and 3		
₩.	7	USER OIL C4 D4	A STATE OF THE PERSONS SEEDS	Library Children professor		The Contract of the second of		0 000
0/12/01	8	S SEED OIL: C1-K2	The Chicken in the Charles of the Control of the Co	Mrnd Off Eugligida Rein 2.	Principal property of the second	General Period 3		7:019
	6		Fuel Oil	Contract Contract	the state of the s	California and a second and a second and a second as sec		V (1) (2)
	10			March Chiefers in Shift Danies	Contraction of the last of the	The state of the s		1-1K/5/2
	11	CO CO TO COOK	Fuo Gil.	Used Oil Firel 62 Bire 2	Run 2	Contraction of the Contraction o		
	12					C CLUCK CONTRACTOR	***************************************	
ري الم	13	SHALF-C1-R1		Shale Feed C1 Pin 1	2 10 1	See Notes 2 and 3		•
- U 5 8	14	SHALE-C1-R2	Inorganic / Solid	Shale Feed C1. Run 2	un 2	See Notes 2 and 3		
600	15	SHALE-C1-R3	Inorganic / Solid	Shale Feed C1. Run 3	un 3	See Notes 2 and 3		
0	16	SHALE-C2-R1	Inorganic / Solid	Shale Feed C2, Run 1	un 1	See Notes 2 and 3		
0	17	SHALE-C2-R2	Inorganic / Solid	Shale Feed C2, Run	un 2	See Notes 2 and 3		
012	18	SHALE-C2-R3	Inorganic / Solid	Shale Feed C2, Run 3	un 3	See Notes 2 and 3		
	19							
	20							
	Field Note:	Field Notes/ Comments 1. Target	1. Target parameters for LLGF and Used Oil (if fired) are ash, heat content, density, total chlorine, sediment and metals.	sed Oil (if fired) ar	re ash, heat content,	density, total chlorin	ie, sediment and	metals.
		2. Target	Target parameters for shale are total chlorine and metals.	tal chlorine and m	etals,			
		3. Target m	metals (all streams) include: arsenic, beryllium, cadmium, chromium, lead, mercury, copper, nickel and zinc. ים איני	: arsenic, berylliu	m, cadmium, chrom	um, lead, mercury, co	opper, nickel and	d zinc.
				- 1-		2		raye / or c
	Relinquished by (pr Douglas R. Roeck	Relinquished By (print): Date: Douglas R. Roeck $10/2i/10$	Religguished By (print):		Relinquished By (print):	: Date:	Received by Lat	Received by Lab (print): Date: /ひ/3/ / //ご
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	Received By (print)	3y (print): 12,30 Pate: 10	Received By (print):		Received By (print):,	Date:	Analytical Labora	Analytical Laboratory Destination:
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	X	12.30 12.30	1 (S) / I			•	Albany, NY 12207	207
_			× 180				Attn: tara Dan	Attn: tara Daniels, (518)-434-4546

Sample Packing and Traceability List

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NIA			WATER CO.	Special Instructions	Archived Duplicate	Archived Duplicate	Archived Duplicate	Archived Duplicate	Archived Duplicate	Archived Duplicate	-caratile fill fill fill and the fill fill fill fill fill fill fill fil	A Selai Managara A Selai Media Aula Hannagara	Martin Branch Carachite California (Carlo	Soo Makes Landing was remainment mentioned the Arabitas de Bentline de	A CONTRACTOR OF THE PROPERTY O	A TO CONTRACTOR AND AND AND AND AND AND AND AND AND AND	Archived Duelland	Archived Duplicate	Archived Duplicate	Archived Duplicate	Archived Duplicate	Archived Duplicate			netals.		zinc. Page 2 of 3	Received by Lab (print): Date: () ()	Signature: Q. Medition (Time: 01.09)	Analytical Laboratory Destination:	Adirondack Environmental Services 314 North Pearl Streel	Albany, NY 12207
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Cohoes, NY Adirogank	C1 = Condition 1	C2 = Condition 2	Hand Delivered	Analitical Parameters	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3	Secretary Company of the Second	and have been designed on the second	Parent dutation and a second	See Meter Landing	and the second and the second and second and second and second as the second and second as the second and second as the second a		Spe Notes 2 and 3	See Notes 2 and 3	See Notes 2 and 3	See Notes 2 and 3	See Notes 2 and 3	See Notes 2 and 3			lensity, total chlorli		m, lead, mercury, a	Date:	Time:	Date:	Time:	
Project Location:	ions:		FedEx Air BIII #:	Sample Description	Liquid Low Grade Fuel C1, Run 1	Liquid Low Grade Fuel C1, Run 2	Liquid Low Grade Fuel C1, Run 3	Liquid Low Grade Fuel C2, Run 1	Liquid Low Grade Fuel C2, Run 2		Waterday desirate	CARLEST AND	A STATE OF STREET, STR	Control of the second s	STATE SECURITION SECURITIONS	- 4									are ash, heat content, d	metals.	um, cadmium, chromiu	Relinguished By (print):	Signalure:	Received By (print):	Signature:	i
17-21/10	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	dolce		Samp	Liquid Low Grac	Liquid Low Grac	Liquid Low Grac	Liquid Low Grac	Liquid Low Grac	Liquid Low Grac	and Local and Selections as the Company of the Comp	POTOTO POTOTO POTOTO PARTIES DE LA PARTIE PA	Catalogie Egypte	esec Off parce				Shale Feed C1, Run 2	Shale Feed C1, Run 3	Shale Feed C2, Run 1	Shale Feed C2, Run 2	Shale Feed C2, Run 3			sed Oil (if fired)	tal chlorine and	: arsenic, berylli	Date: 10	тіте: 1330	2 3 3 3 10 V	Time:	046)
Date Shipped: Dalingran	ĺ	Recovery: Fred Sanguedolce		Sample Matrix	Organic Liquid	Organic Liquid	Organic: Liquid	Organic Liquid	Organic Liquid	Organic Liquid	THE PROPERTY OF THE PARTY OF TH			Description of the second seco	Control Contro	A COLUMN CONTRACTOR OF THE PROPERTY OF THE PRO	Inorganic / Solid	Inorganic / Solid	Inorganic / Solid	Inorganic / Solid	fnarganic / Solid	Inorganic / Solid		,	1. Target parameters for LLGF and Used Oil (if fired) are ash, heat content, density, total chlorine, sediment and metals.	Target parameters for shale are total chlorine and metals.	ietals (all streams) include: arsenic, beryllium, cadmium, chromium, lead, mercury, copper, nickel and zinc. Page	Religquished By (print):	Signature:	Réceived By (print); Mossol Paleisono	Signature:	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
2010 MACT CPT	60163411	Westford, MA	Doug Roeck :	Sample ID Code	LLGF-C1-R1 10/40		LLGF-C1-R3 16/21	LLGF-C2-R1 10/14	LLGF-C2-R2 16/19	LLGF-C2-R3 /b//9	LOTE OF THE SAME OF THE PERSONS ASSESSED.	of the Same of the same of	IL-CT-RS	TE-CZ-KT	11.1.1.K)		SHALE-C1-R1 /3/20		SHALE-C1-R3 (0/2(SHALE-C2-R1 (6/19	SHALE-C2-R2 /5//9	SHALE-C2-R3 10/19			1. Target pa	2. Target par	3, Target m	Date: 10	L Time:	30 Date		
. =		Program Office: V	Program Contact: D	Sami	LLGF	LLGF	LLGF	LLGF	LLGF	LLGF	0 GEOT	TEED CHEST	A-CEDOIIC CITR	WEED OIL CO	KIND OF STREET	SHALL SHALL	SHALE	SHALE	SHALE	SHALE	SHALE	SHALE			Field Notes/ Comments			Relinquished By (print): Douglas R - ReecK	Signature: Mocelea fulca	Received By (print): (2	nathre:	TA TOO
Type of Program	Project #:	Progra	Progra	llem		7			SZ V		27	28	53	30	31	32	<u> </u>					2 38	39	49	Field N			Relings Doca	Signatur	Regeive	Signature	N N
	, de car.		- 4.5		5	000	3	9	0	S							7 2	\$ \$0 \$	000	0	o'	õ				-0.00 m	SAMPLE OF STREET					
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Sample Packing and Traceability List

P.O. #: N/A			meters Special Instructions	lor	for sediment analysis	for sediment analysis	for sediment analysis	for sediment analysis	for sediment analysis													1,000		e, sediment and metals.		opper, nickel and zinc.	Received by Lab (print): Date:	Signature, Maller Time: 2.0	Analytical Laboratory Destination:	Automata Environmental Services 314 North Pearl Street Albany, NY 12207
Cohoes, NY Adirondack C1 = Condition 1	C2 = Condition 2	Hand Delivered	Analitical Parameters	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3	See Notes 1 and 3															density, total chlorin		ım, lead, mercury, o	Date:	Тіле:	Date:	Time:
Project Location: Laboratory: Test Conditions:		FedEx Air Bill #:	Sample Description	Liquid Low Grade Fuel C1, Run 1	Liquid Low Grade Fuel C1, Run 2	Liquid Low Grade Fuel C1, Run 3	Liquid Low Grade Fuel C2, Run 1	Liquid Low Grade Fuel C2, Run 2	Liquid Low Grade Fuel C2, Run 3															are ash, heat content, o	netals.	ит, cadmium, chromlt	Relinquished By (print):	Signature:	Received By (print):	Signature:
1/9-21/10 DE/1/VO/26/ Roeck/	adolce		Sanp	Liquid Low Grad	Liquid Low Grad	Liquid Low Grad	Liquid Low Grad	Liquid Low Grad	Liquid Low Grad									1						Jsed Oil (if fired)	otal chlorine and I	e: arsenic, berylli	Date: 1/10	. Time: I?⊰O	C Date Polyy 10	Time:
Sample Date: /o//9-2/ Date Shipped: De//Ve/ Shipper / Doug Roeck /			Sample Matrix	Organic Liquid	Organic Liquid	Organic Llquid	Organic Liquid	Organic Liquid	Organic Liquid															Target parameters for LLGF and Used Oil (if fired) are ash, heat content, density, total chlorine, sediment and metals.	Target parameters for shale are total chlorine and metals.	metals (all streams) include: arsenic. beryllium, cadmium, chromium, lead, mercury, copper, nickel and zinc. Page	Reliminished By (print):	Signature	Received By (print):	Signature
Norlite Corp. 2010 MACT CPT 60163411 1	Westford, MA'	Doug Roeck	Sample ID Code	LLGF-SEDIMENT-C1-R1	LIGF-SEDIMENT-C1-R2	L.GF-SEDIMENT-C1-R3	LLGF-SEDIMENT-C2-R1	LLGF-SEDIMENT-C2-R2	LLGF-SEDIMENT-C2-R3					-					T T T T T T T T T T T T T T T T T T T					≓		3. Target	rint): Date:	كنت .	12:30 Date: 10	Time:
Site of Program: Type of Program: Project #:	Program Office:	Program Contact:			_		44 LLGF	45 LLGF	46 LLGF	47	148	149	: 50	51	52	53	154	. 55	999	357	. 58	:59	09:	Field Notes/ Comments			Relinquished By (pri	1 3	Regeived By (print):	Signature:
— . Tax - s jayl ef is gref e	e e e e e e e e e e e e e e e e e e e	د به پ	-givi gi s	<u>~</u>	ر د	S	e Ĉ	it.	<u></u> 5	i	or y	797	* ; v.'*			ie		vs.	ev-	***** <u>*</u>		ci (j	- FE	- XI-10:	rive.	egia Sanar	· Sarani, and a sarani			

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ANALYTICAL LABORATORY CHAIN OF CUSTODY 628 SOUTH SARATOGA STREET

628 SOUTH SARATOGA STREET COHOES, NEW YORK 12047 (518) 235-0401/(518) 233-8377 FAX

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O Metals: As, Boch SPECIAL HANDLINGHARECAUTIONS

H8 to De analyzed by two methods: 30508/74/76. *NON NELAP PARAMETER 7474 NOT INCLUDING TCLP NORMAL TAT=5 DAYS CE, PB, Hy Co. COMMENTS Normal. AMBIENT OR CHILLED CPT Plan (simming astruched) OTHER JLIENT PROJECT# TURN AROUND TIME (WORKING DAYS) 11489109 × 14841 (ES MADEP ID: M-NY1517 ASH SPC= က VOLATILES NOTES TOLP METALS PC3s NO RAW DATA THE MATRIX SPECIALISTS FOR RAPID, QUALITY, ANALYTICAL DATA LAB PROJECT TOTAL METALS 🕒 X BILLING INFO X X シンジング X X × × ¥ SN∃ĐOT∀H ス マ BAJac. See **eUTB** BJI9089 BT2AW PRESERVED NO 8A99 EPA LAB CODE: NY01517 SPECIAL INSTRUCTIONS . [ביפון עוד הנף יירר STISO9MOD - Project Specific XIRTAM ZIP: SHEWAINCO HOS STATE: 3 FAX: NOTES SAMPLER'S INIT. NECEIVED BY: (DATE/TIME) RECEIVED BY: (DATE/TIME) SAMPLE ID & LOCATION AND THE RESIDENCE OF THE PROPERTY OF THE PROPE SAME 4. A. J. -C3-R7-NYS ELAP ID: 11526 -C2- R3 SHALE - C2-RI RECEIVED WITHIN HOLDING TIMES -C1-R2 · C1- R3 GF-CO-70 SHALE-CI-RI LLG F-C1-R1 COMPANY ADDRESS; PHONE EMAIL: ATTN: SIT: 1403 1232 1 1232 0 14 05 0 THOS INDIA 2100 6 13076 WHITE-LAB YELLOW-REPORT PINK-CUSTOMER 174J የራዕንያ FAX: 518- 235-0233 1307 1405 EMAIL: PLANIGHT @ WORLITECORD, COM DATE & TIME NOTES ONLY RECEIVED BY LABORATORY: (DATE/TIME) 07:70 COMPANY: Norlibe Copposition STATE: (CV. 20 10 10 21 13 2 वा ध्राव 2 1001 S TN TERNAL COC RELINQUISHED BY: (DATE/TIME) 9 0 ø ATTN: Prince Maight PROJECT NAME (LOCATION) Athas PHONE: 5-18-235-0401 BOID MACT CAT NORLITE LAB # INTERNAL ADDRESS: GAR Cohoci CITY

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IN ACCORDAN HTIW CLIENT PROJECT # PO# *NON NELAP PARAMETER MUNDATE TO THE TRANSPORT OF THE STATE OF TH NORMAL TAT=5 DAYS NOT INCLUDING TCLP COMMENTS ര് X OTHER Normal TEMPERATURE MINBIENTOR CHILLED Ь TURN AROUND TIME (WORKING DAYS) (1487/09 ACCAEOLA PAGE MADEP ID: M-NY1517 വ SEJITAJOV: NOTES TCLP METALS BINDWAR BOY TO THE PROJECT # ೯೮೨ THE MATRIX SPECIALISTS FOR RAPID, QUALITY, ANALYTICAL DATA **2JATBM JATOT** BILLING INFO: # SNEEOOTAH BURGER BTSAW PRESERVED NO ANALYTICAL LABORATORY CHAIN OF CUSTODY 8AЯĐ EPA LAB CODE: NY01517 COMPOSITE (518) 235-0401/(518) 233-8377 FAX 628 SOUTH SARATOGA STREET COHOES, NEW YORK 12047 PROPERIX XISTAM ZIP: PAGE OF CONTAINERS STATE FAX: NOTES SEE SAMPLER'S INIT. RECEIVED BY: (DATE/TIME) SAMPLE ID & LOCATION SPECIAL INSTRUCTIONS C2- (3 NYS ELAP ID: 11526 CHALE CA-RA RECEIVED WITHIN HOLDING TIMES COMPANY: 3 ADDRESS: PHONE 4 EMAIL: ATTN CIT S W YELLOW-REPORT PINK-CUSTOMER) हार्न्स 0016 DATE & TIME NOTES RECEIVED BY LABORATORY: (DATE/TIME) 10/18/10 STATE KURSTANDON BENDER BY: (DATE/TIME) RELINQUISHED BY: (DATE/TIME) ξÄ PAGE ROJECT NAME (LOCATION) ABIO MACT CPT NORLITE LAB # SEE COMPANY: WHITE-LAB ADDRESS PHONE EMAIL ב כובי ÄL K

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Sub-Contracted Analysis

Bottom Sediment & Water - Method ASTM D1796



2 Terminal Road KMI Building OB2 Carteret, New Jersey 07008 Phone (732) 969-4800 Fax (732) 969-1112 Email ops@apsinsp.com

INSPECTIONS OF QUALITY

SAMPLE SOUIRCE: SUBMITTED SAMPLES

TERMINAL: ADIRONDACK ENVIRONMENTAL

LOCATION ALBANY, NY PRODUCT: ORGANIC LIQUID

APS FILE No.: 79969

LAB No.: 11841-11846

DATE SAMPLED . 10/21/2010

DATE TESTING COMPLETED: 11/5/2010

ON ORGANIC LIQUID SAMPLE/S THE FOLLOWING ANALYTICAL RESULTS WERE OBTAINED

METHOD No.	TESTS	UNITS	RESULTS	
LAB No. 11841 - A	ADIRONDACK SAMPLE # 101021050-013A			Ī
ASTM D 1796	WATER & SEDIMENT TOTAL	VOLUME %	50.0	CI-RI
	WATER	VOLUME %	25.0	
	SEDIMENT	VOLUME %	25.0	
LAB No. 11842 - A	ADIRONDACK SAMPLE # 101021050-014A			
ASTM D 1796	WATER & SEDIMENT TOTAL	VOLUME %	44.0	CI-RZ
	WATER	VOLUME %	18.0	LI-NZ
	SEDIMENT	VOLUME %	26.0	
LAB No. 11843 - A	NDIRONDACK SAMPLE # 101021050-015A			
ASTM D 1796	WATER & SEDIMENT TOTAL	VOLUME %	50.0	c1-R3
	WATER	VOLUME %	30.0	
	SEDIMENT	VOLUME %	20.0	
LAB No. 11844 - A	DIRONDACK SAMPLE # 101021050-016A			
ASTM D 1796	WATER & SEDIMENT TOTAL	VOLUME %	50.0	C2-RI
	WATER	VOLUME %	20.0	C2 - 7C1
	SEDIMENT	VOLUME %	30.0	
LAB No. 11845 - A	DIRONDACK SAMPLE # 101021050-017A			
ASTM D 1796	WATER & SEDIMENT TOTAL	VOLUME %	50.0	C2-R2
	WATER	VOLUME %	25.0	
	SEDIMENT	VOLUME %	25.0	
LAB No. 11846 - A	DIRONDACK SAMPLE # 101021050-018A			
ASTM D 1796	WATER & SEDIMENT TOTAL	VOLUME %	50.0	c2-R3
	WATER	VOLUME %	30.0	L4-K3
	SEDIMENT	VOLUME %	20.0	
			many a tal	

Stephen Levano

Atlantic Product Services, Inc.

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AECOM Environment

Appendix E

Field Sampling Documentation

Field Data Sheets (January 2011 Test)	.pg E-1
AECOM CEM Data (January 2011 Test)	.pg E-37
Sample Shipment Documentation (January 2011 Test)	pg E-72
Equipment Calibration Data (January 2011 Test)	pg E-85
Field Data Sheets (October 2010 Test)	.pg E-97
Sample Shipment Documentation (October 2010 Test)	pg E-133
Equipment Calibration Data (October 2010 Test)	pg E-170

AECOM Environment

Field Data Sheets (January 2011 Test)

	<u>Field</u>	Log - MACT CPT 2010 / 2011 - Norlite Corporation
Date	Time	Description of Events and Activities
1/10/11	07:30	Departed Harvard, MA for Norlite. One stop for
(MON)		breakfast at Charlton Plaza on Mass Pike
	10:30	Arrived at Norlite. Setting up equipment
	18:00	Arrived at Norlite. Setting up equipment Departed site for hotel
efulu	07:00	Arrived onsite
(TUES)	08:49	Start CIRT-RI
	11:50	End CIRT-RI
	12:35	
	15:37	
	17:00	Deputed site for hotel
1/12/11	07:00	Arrived onsite
(WED)		Plant a little delayed in getting to condition-shooting
1,722		for a start ~ 09:00. Snow overnight and thru
	09:03	Start CIRT-R3 the day.
	12:04	End CIRT-R3
	12:30	Plant at "flow" conditions for CIA
		AECOM doing a prelim. flow / Ts traverse
	12:30	Triad online spiking at 60 lb/m mcB
-	13:33	Start CIA-RI (M23)
	14:03	Start CIA-RI (VOST)
	15:57	End CIA-RI (VOST)
	16:35	End CIA-RI (M23) Departed site for hotel
	17:30	Departed site for hotel
1/13/11	07:00	Arrived onsite
(THURS)	07:38	Triad online spiking MCB at 75 16/hr
	08:33	Start CIA-RI (M23)
	09:00	Start CIA-RI (VOST)
	11:01	CIA-RA end (VOST)
	11:35	CIA-R2 end (M23)
		(cont'd)
	<u> </u>	(with a)

page 1 of 2



	Field	Log - MACT CPT 2010 / 2011 - Norlite Corporation
Date	Time	Description of Events and Activities
1/13/11	12:00	CIA-R3 Start (M23)
(THURS)	12:30	CIA-R3 Start (VOST)
	14:46	CIA-R3 End (VOST)
	15:30	CIA-R3 end (VOST) CIA-R3 end (M23)
	17:30	DR & RB depart site with all samples
	640	DR & RB Depart site with all samples to drop off at FedEx Office in Menands, No All samples left at FedEx - Heading to Mass Pike and home
	18:00	All samples left at FedEx - Heading
	·	to Mass Pike and home
1/14/11	08:30	FS, RS & CC onsite at Norlite to pack all
(FRI)		Escionnent, get CEM trailes power
		Equipment, get CEM trailes power disconnected and to Lepart
	09:30	CC calls DR to check on Status of
		samples. All samples confirmed to have
		been shipped. Rest of field crew
		CC calls DR to Check on Status of Samples. All Samples confirmed to have been shipped. Rest of field crew departs for return trip to Harvard, MA
· · · · · · · · · · · · · · · · · · ·		
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page <u>2</u> of <u>2</u>

AECOM - CEM

SITE FIELD LOG

Client :	Norlite Corp. Project # 60/634/1 - 200							
Operater:	Robert Sicard Date : 01/12/11							
Time	Description of events							
07:25	- Arrived or site to test kiln#1							
<u> </u>	- Attended tailgate safety neeting. Snowing 5"overning the							
:	- Performed Diretand system Calibrations-OK.							
:	- Attended toolgate safety neeting. Snowing 5"overnight - Performed Diretand system Calibrations-OK Turned or all healted probes and lives leaked check sample line, ok.							
:	-leaked check sample live, ok.							
:								
09:03	- START OF FORST RUN #3 dioxan - End of Run #3							
12 04	- End of Run #3							
B	Condition #1							
13:33	-Start of Test Runt Vost CIA-RI							
15.43								
15:43	- Fred public power to Trailer put of convertor							
15:52	- Fred public power to Trailer out of connector Back or line							
16:35	FND ROUTH CIA-RI							
:	-End Rus#1 CIA-RI -Performed Final System Calibration Checks							
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AECOM - CEM SITE FIELD LOG

Client :	Norlite Corp.		Project #	60163411 .2 0 0				
Operater:	Robert Sicard		Date :	01/13/11				
Time		Donorintian	of augments		_			
07:00	Arrived on site To Test Klin #/							
<i>U 7. U</i>	The part of S.	X. (1 - +	K1,~ "1	2.2-°F				
<u> </u>	- Turned up hea	to led live le	mp lo	2751	_			
:	- lurned on hea	led probe T	0275 /	and heated 'Tbox 250°F	_			
:	- Leaker chec	K Sample	line. Co	K.	_			
:	FERTO(med Di	recland de	yslem Co	alibration Check-OKlinspe	<u>۳۲</u> ۲			
08:33	- STart Runts	2-CIA		· · · · · · · · · · · · · · · · · · ·	\neg			
11 20	r	#0 0 0						
// :35 ·	-INDOT Kaj	"2-C)H-PO	10 med	fonalsystem Cal check	٦			
12:00	- Starl Runk	3-CIA			\dashv			
:								
/5:30 ·	- End Kust 3/C	1A)-Pertoc	med fir	sal system Cal. Chocked	20			
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AECOM Proje	ct No.	60163411-200						
Client:	Norlite Corp.		Facility:	Cohoes, NY				
Stream Sample	d:	Liquid Low-Gr	ade Fuel (LLGF)					
Sampling Local	Sampling Location: KI- Burner Fluor							
Date: 1			n) it	Date:	1 12 11			
Condition:	•	Condition: (Condition:	CIRT			
	RI		Ra		R 3			
Run No.		Run No.		Run No.				
Start Time: 0		Start Time:	1235	Start Time:	07:03 a			
Stop Time:	1(50	Stop Time:	1537	Stop Time:	12:040			
Grab	Clock	Grab	Clock	Grab	Clock			
Interval	Time	Interval	Time	Interval	Time			
(min)	(actual)	(min)	(actual)	(min)	(actual)			
0	6844	0	1236	0	0903			
15	13904	15	1251	15	0918			
30	1919	30	1306_	. 30	0933			
45	0924	45	137]	45	1948			
60	0949	60	1336	60	1003			
75	* 1004@	75	1351 7	F 75	10(8 ×			
90	* 1019 (P)	90	1400	90	1033 *			
105	1034	105	1471	105	1048			
120	1049	120	14360	120	1103			
135	1104	135	1451 *		1118			
150	1119	150	1906	150	1133 **			
165	1134	165	1521	165	1148			
180	1149	180	1525	180	1304			
195	7	195	· · · · · · · /	195				
210		210		210				
225		225		225	 			
240		240		240				
Comments:								
Signature of Sar		luc						
* (Q) Z								

NEICVP1120E01



AECOM Projec	ct No.	60163411-200							
Client:	Norlite Corp.	•	Facility:	Cohoes, NY					
Stream Sample	<u>d:</u>	Shale							
Sampling Locat	Sampling Location: Superior Silo								
Date:	1-11-11	Date:	- 11-11	Date: 41	-12-11				
Condition: (LIRT	Condition:	CIRT	Condition: (CIET				
Run No.	1	Run No.	2	Run No.	3				
Start Time:	08:49	Start Time:	12:35	Start Time: 0	9:03				
Stop Time:	11:50	Stop Time:	15:37	Stop Time:	2:04				
Grab	Clock	Grab	Clock	Grab	Clock				
Interval	Time	Interval	Time	Interval	Time				
	(actual)	(actual)			(actual)				
Beginning	07:49	Beginning	12:35	Beginning	<u>090</u> 3				
Middle	10:19	Middle	2:05	Middle	1033				
End	11:50	End	1534	End	(2:03				
Comments:									
Signature of Sampler: 1									
Signature of Sampler: Thomas Hack									



SOCIO/EIQUID GRAB SAMPLING FIELD DATA SHEET								
AECOM Project No. 60163411-200								
Client:	Norlite Corp.	Facility:		Cohoes, NY				
Stream Sample	d:	Liquid Low-Gr	ade Fuel (LLGF)					
Sampling Locat	ion: X\-	Burner Fl	000					
Date: 1	12/11		1/13/11	Date: //3/11				
Condition:	CIA	Condition:	CIA	Condition:	CIA			
	RI		Ra		<u> 23</u>			
Run No.		Run No.		Run No.	100			
Start Time:	1333	Start Time:	0833	Start Time:	1500			
Stop Time:	1635	Stop Time:	1135	Stop Time:	1530			
Grab	Clock	Grab	Clock	Grab	Clock			
Interval	Time	Interval	Time	Interval	Time			
(min)	(actual)	(min)	(actual)	(min)	(actual)			
0	1334	0	0833	0	1204 (6)			
15	1349	15	0848	15	1219			
30	1404	30	0903	30	1234 P			
45	1419	45	0918	45	1249			
60	1434	60	0933	60	1304			
75	1449 M	75	5948	75	1319			
90	1504 (0)	90	1003	90	1334			
105	1419	105	1018 -	105	134500			
120	1935	120 1033 (W)		120	1404			
135	1549	135	1048	135	1419			
150	1604	150	1103	150	1434			
165	1619	165	1103	165	1449			
180	1633	180 //32		180	1504			
195		195	117(195	1519			
210		210		210	1530			
225		225		225	1120			
240		240		240				
Comments:								
Signature of San	ipler:	Mrs	- No. 1996 - THE THE PROPERTY OF THE HISTORY	orgy wie wiele Android Diche Literaturkeite	中的中心中的自由的自由的自由的自由的主义。			
X (26) -	12/10							

NEICVP1120E01



AECOM Projec		60163411-200	FLING FIELD					
Client:	Norlite Corp.	00100417-200	Facility:	Cohoes, NY				
Stream Sample		Shale	racmey.	Conces, It i				
Sampling Locat		SHRE SIL	-					
	12-11	Date:		Date:	13-11			
	PRAT CIA-RI	 	CIA		CIA			
Run No.	1	Run No.	2	Run No.	3			
Start Time:	13:33		GS:33	Start Time:	12:00			
Stop Time:	10:35	Stop Time:	11 35	Stop Time:	15:30			
Grab	Clock	Grab	Clock	Grab	Clock			
Ínterval	Time	Interval	Time	Interval	Time			
	(actual)		(actual)		(actual)			
Da ein ein e	12 ` 7 Å	.	455-2 A		i o ' mi			
Beginning Middle	15:03	Beginning Middle	18:04	Beginning Middle	12:01			
End	14:35	End	10:04	End	15:31			
Comments :			·		.			
					Miletongol, park of the first state of the s			
Signature of Sar	npler: Thomas	fore	<u> </u>					



METHOD 2 GAS VELOCITY AND VOLUME DATA SHEET

prelin Traverse Prior to Condition 1RT

Date: (-II-I) Operator(s): C.Crowley				rt Length:	1/ 5 6 Diam.:		onorail ? or N	Platform Wid Railing Ht.:			
	Stack Diameter (in.): Bar. Press. (in. Hg): Static Press. (in. H ₂ O) Cp: (0.84) or 0.99 (Circle one) O ₂ (%) CO ₂ (%) Wet Bulb Temp. (°F): Dry Bulb Temp. (°F):		e)		Ø	Take	Se Outlot (Serv	JIZ			
,	· · · · · · · · · · · · · · · · · · ·	Included port					SCHE	MATIC C	OF STACK (CROSS SE	CTION
K	Pt. #	Pos.	Vel. DP (in. H ₂ O)	Stack Temp. (°F)	Flow Angle that Yields a Null DP		Pt. #	Pos. (in.)	Vel. DP (in. H ₂ O)	Stack Temp. (°F)	Flow Angle that Yields a Null DP
H	\overline{l}	519	0.68	129		West	7	51,9			
	2	47.0	0.72	129			2	47.0			
	3	39.8	0.74	129			3	39.8			
	4	20,2	0.72	1Z9			4	20,2			
	5	13,0	0.70	129			S	13,0			
	6	8.1	0.62	129			6	811			
		AV6-	0.70	129							
IL				<u> </u>		Marcillan .			ı		

C:\Documents and Settings\roeckd\My Documents\PROJECTS\NORLITE\CY2010\Field Prep\[Method 2 Form.xlsx]A

Method 0023A (PCDDs/PCDFs) Sampling Parameters MACT CPT Condition 1RT - Norlite Kiln 1											
·	JPT Cond		,								
Run No.		C1RT-R1	C1RT-R2	C1RT-R3							
Date		11-Jan-11	11-Jan-11	12-Jan-11							
Start Time	Units	08:49	12:35	09:03							
Stop Time		11:50	15:37	12:04	AVGS						
Nozzle Diameter	inches	0.223	0.223	0.223	0.223						
Barometric Pressure	in. Hg	30.20	30.20	29.60	30.00						
Net Sampling Time	min.	180.0	180.0	180.0	180.0						
Volume Metered	dcf	110.731	115.401	111.576	112.569						
Avg. DGM Temp.	°F	37.5	40.0	39.5	39.0						
Avg Delta H	in H ₂ O	1.25	1.35	1.29	1.30						
Avg Delta H	in. Hg	0.0919	0.0996	0.0950	0.0955						
DGM Calibration Factor		0.982	0.982	0.982	0.982						
Gas Sample Volume	dscf	116.829	121.178	114.948	117.652						
Total Water Collected	mL	372.8	384.4	352.9	370.0						
Volume of Water Vapor	scf	17.578	18.124	16.639	17.447						
Moisture (measured)	% v/v	13.1	13.0	12.6	12.9						
Moisture (@ saturation)	% v/v	15.0	15.4	14.9	15.1						
Dry Mole Fraction		0.8692	0.8699	0.8735	0.8709						
CO₂ at Stack	% dry	4.76	4.69	4.38	4.61						
O₂ at Stack	% dry	15.00	15.02	14.56	14.86						
CO + N ₂	% dry	80.24	80.29	81.06	80.53						
Dry Molecular Weight	lb/lb-mole	29.36	29.35	29.28	29.33						
Wet Molecular Weight	lb/lb-mole	27.88	27.87	27.86	27.87						
Excess Air at Stack	%	242.6	243.2	212.9	232.9						
Stack Diameter	inches	48.0	48.0	48.0	48.0						
Stack Area	sq. in.	1809.6	1809.6	1809.6	1809.6						
Static Pressure	in H ₂ O	0.90	0.95	1.00	0.95						
Stack Pressure	in. Hg	30.27	30.27	29.67	30.07						
Avg. Stack Temp.	°F	130.9	131.0	129.0	130.3						
Avg. Sqroot of Delta P		0.8385	0.8675	0.8445	0.8502						
SDE Average		20.384	21.089	20.496	20.657						
Pitot Coefficient		0.84	0.84	0.84	0.84						
Stack Gas Velocity	afpm	3,024	3,129	3,072	3,075						
Stack Flowrate	wet acfm	38,002	39,316	38,604	38,641						
Stack Flowrate	wet scfm	34,349	35,533	34,319	34,733						
Stack Flowrate	dscfm	29,857	30,910	29,979	30,248						
Isokinetics	%	101	101	99	100						
Meter Box No.		0808030	0808030	0808030							
Delta H @	in. Hg	1.833	1.833	1.833							
Field QA Yqc		0.966	0.967	0.987	0.973						
[Deviation] Pre-Y	%	1.66%	1.54%	0.53%	1.24%						

QC Date Init

CLC 1/(7/()

MACT CPT Condition 1RT - Norlite Kiln 1

	C1F	RT-R1 A	/GS PC	CDDs / P	CDFs	C1RT-R2 AVGS PCDDs / PCDFs					C1RT-R3 AVGS PCDDs / PCDFs					
PT	DP	SQRT	DGM	DH	STACK	DP	SQRT	DGM	DH	STACK	DP	SQRT	DGM	DH	STACK	
		DP	TEMP		TEMP	·	DP	TEMP		TEMP		DP	TEMP		TEMP	
a1	0.65	0.8062	26	1.10	130	0.74	0.8602	32	1.30	130	0.62	0.7874	28	1.10	126	
	0.68	0.8246	28	1.20	130	0.76	0.8718	33	1.30	131	0.61	0.7810	29	1.10	126	
a 2	0.77	0.8775	31	1.40	131	0.75	0.8660	36	1.30	130	0.78	0.8832	30	1.40	127	
<u> </u>	0.76	0.8718	32	1.30	131	0.80	0.8944	37	1.40	131	0.78	0.8832	31	1.40	128	
a3 _	0.80	0.8944	34	1.40	131	0.77	0.8775	38	1.40	131	0.77	0.8775	32	1.40	128	
	0.76	0.8718	36	1.30	131	0.77	0.8775	37	1.40	130	0.78	0.8832	33	1.40	128	
a4	0.75	0.8660	37	1.30	131	0.78	0.8832	37	1.40	130	0.74	0.8602	33	1.30	129	
	0.72	0.8485	38	1.30	131	0.77	0.8775	38	1.40	131	0.77	0.8775	35	1.40	128	
a5	0.69	0:8307	38	1.20	131	0.69	0.8307	39	1.20	131	0.69	0.8307	37	1.20	128	
	0.68	0.8246	38	1.20	130	0.69	0.8307	40	1.20	131	0.68	0.8246	38	1.20	128	
a6	0.60	0.7746	39	1.10	131	0.58	0.7616	40	1.00	131	0.65	0.8062	40	1.20	129	
	0.60	0.7746	39	1.10	131	0.58	0.7616	40	1.00	131	0.65	0.8062	42	1.20	129	
b1	0.72	0.8485	39	1.30	130	0.77	0.8775	39	1.40	131	0.71	0.8426	43	1.30	126	
	0.71	0.8426	40	1.30	131	0.80	0.8944	41	1.40	131	0.71	0.8426	44	1.30	129	
b2	0.72	0.8485	41	1.30	132	0.81	0.9000	42	1.50	132	0.76	0.8718	45	1.40	131	
	0.76	0.8718	41	1.40	131	0.81	0.9000	42	1.50	132	0.76	0.8718	46	1.40	131	
b3	0.74	0.8602	41	1.30	131	0.83	0.9110	44	1.50	132	0.72	0.8485	46	1.30	131	
	0.72	0.8485	41	1.30	131	0.85	0.9220	44	1.50	132	0.68	0.8246	. 47	1.20	131	
b4	0.72	0.8485	40	1.30	131	0.81	0.9000	45	1.50	132	0.75	0.8660	46	1.40	131	
	0.73	0.8544	41	1.30	131	0.84	0.9165	44	1.50	131	0.77	0.8775	45	1.40	131	
b5	0.68	0.8246	41	1.20	130	0.75	0.8660	43	1.40	131	0.71	0.8426	44	1.30	131	
	0.68	0.8246	40	1.20	131	0.75	0.8660	43	1.40	131	0.73	0.8544	44	1.30	130	
b6	0.63	0.7937	40	1.10	132	0.69	0.8307	43	1.30	131	0.67	0.8185	45	1.20	130	
	0.63	0.7937	40	1.10	132	0.71	0.8426	44	1.30	131	0.65	0.8062	45	1.20	131	
											<u> </u>		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
AVG	0.70	0.8385	37.5	1.25	131	0.75	0.8675	40.0	1.35	131	0.71	0.8445	39.5	1.29	129	

QC Date Init CLC 1/17/11

A\(\in\)COM

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

AECOM EPA ISO	OKINETIC SAMPLING - FIELD DATA SHEET	CEM
Sampling Train Method 0023A (D/F) Run Number 1-RT-P1 (OP) Client Norlite Corporation Facility Location Cohoes, NY Source Kiln 1 Exhaust Stack Date January 11, 2011 Operator Stack Dia in. 48 Start Time Stop Time 10 (9 1150)	Barometric Pressure 30	FINAL RINSE CO2 O2 4.76 15, cc
	Imp Outlet TC ID: 1 T-7	1800

					Imp Outlet TC ID:	-L						3 36. 3	3575	Final PH
ļ	SAMPLE	CLOCK	VELOCITY	ORIFICE	GASMETER		TE	MPER/	TURE RE	ADINGS, S			PUMP	
	POINT	TIME	HEAD :	METER VOL.	VOLUME		SS ST TO BE		ORGANIC			METER	VACUUM	COMMENTS
- 1)		DeltaP, in we	Delta H, in we	FE THE PARK	STACK	PROBE	OVEN	MODULE	IMPINGER	IN	OUT	in. Hg	The state of the s
		0	0.65	1/1800		130	252	229	42	30	26	NIK		Start OSU9
		7.5	0.63	1.2	726 -19	130	253	229	49	38	28		20	·
ľ	7	15 22.S	0.77		730.55	131	26.62	230	<u>δ3</u>	41	3/		2.5	
ı			0.76	1.4	735,46	<u>131</u>	260	230	60	4.5	32		2.5	
	3	30.0	080	1.3	740 13	131	<i>759</i>	229	4(47	34		3.0	
	4	37.5	0.76	1.3	745-01	131	259	230	<i>it</i> 5	45	36		2.0	
Į	4	45,0	0.75		749.75	131	259	230	38	42	37		2-0	·
		52.5	0 72	1.3	754.46	13/	26/	232	38	42	38		2.0	
	5	60.0	0.69	1.2	759,18	131	262	23i	3.7	42	38		2,0	
- 1		67.5	068	1.2	763 72	130	260	230	37	41	38		20	<u> </u>
-	6	75.0	000		768.28	(3)		230	37	39	39		2.0	
ı		\$2.5	0.60	(772-77	13/	258	227	37	-38	39			DOST A 10:19
			0.672	1.3	777,05	130	262	229	38	38	39		2,5	Kestalt 1020
ļ		97.5	071	1.3	781.73	13 <u>i</u>	264	230	38	36	40		2.5	
Į,	2	105.0	0.72	1.3	786:40	132	261	229	37	37	41		2.5	
			0.76	1.4	791-12	(3/		230	38	36	41		3:0	
.	3	120.0	0.74		796.03	131	264	231	38	36	4/		3 20	
.			0 72	1.3	<i> ننج</i>		263	230	38	38	41		3,0	
.	- 낙	(35,0	0.72	1.3	805,49	131	262	232	39	38	40		30	
		142.5	0 73	1.3	810.20	131		231	34	39	4		3.0	
	S	1500	0108	1,2	814.88	130		230	38	40	41		2.5	
		157.5	0.68	12	819,47	131	265	229	39	44	ИÛ		2.5	
	6		0.63	1/1	823.94	132	263	229	39	45	40		2.0	
		1725	0.63	1-1	828,32	132	26	230	39	48	_4O	//	2,0	
	End	180.0			832651							A		End (150)
	- <u>-</u>													

NEICVP1120E01

Appendix CAA A Page 774 of 1159

Norlite, ELC Cohoes, New York

A=COM

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

AICON ETA ISC	KINETIC SAMPLING -	FIELD DATA SHEET		CEM
Sampling Train Method 0023A (D/F) Run Number CART - R7 (TWO) Client Norlite Corporation Facility Location Cohoes, NY Source Kiln 1 Exhaust Stack Date January 11 , 2011	Barometric Pressure 30, 2	LEAK CHECKS in "Hg INITIAL VAC. 18 in. CFM MID VAC. in. CFM FINAL VAC. 5 in. CFM THE PROOF TO SERVICE OF THE PROOF TO SERVICE	IMPINGER VOL'S.	Orsat CO2 O2 V . 61 IS.02
Operator Coulley Stack Dia, - in. 48 Start Time [235] [407] Stop Time [44:05] [537]	Orifice Coefficient (Y) 1.833 Delta H @ 0.482 Nozzle Size/No. 0.223 XAD Thermocouple ID: \(\frac{1}{2}\) \(\frac{1}{2}\) \(\frac{1}{2}\) Imp Outlet TC ID: \(\frac{1}{2}\) \(\frac{1}{2}\)	FILTER DATA NUMBER TARE	SILICA GEL Final Purge	Rate

SAMPLE	- CLOCK-	VELOCITY	ORIFICE	GAS METER		TEMPERATURE READINGS, °F							THUIT IX
POINT	TIME	HEAD	METER VOL.	YOLUME	praktin i			ORGANIC	2 th 100	GAS	METER	VACUUM	COMMENTS
marka jirkar	-drafallistay	DeltaP, in we	DeltaH, in we	in the contract of the contrac	STACK		OVEN		IMPINGER	IN:	OUT	in. Hg	
	0	0.74	1/3	834,303	130	252	221	34	30	32	NA	1.0	Start 1235
<u> </u>	7.5	0.76	<u>U.3</u>	838,80	131	254	230	36	34	33)	25	
2	15	0.75	1.3	643.65	130	258	229	37	34	36		3.0	
	22.5	0.80	1.4	848-18	131	260	229	37	34	37		3.0	
3	30	0.77	1,4	852,98	13/	257	229	36	33	38		3-0	
	37.5	0.77	1-4	857.83	130	258	231	34	33	37		3.0	
4	45	0-78	1.4	862,77	130	256	231	35	33	37		3.0	
<u> </u>	52.5	0.77	1.4	867.72	131	265	232	39	34	38		3.0	
S	60	0.69	1.2	872.430	131	260	230	39	35	39		2.5	
47	67.5	0.69	1.2	877.124	131	260	230	39	36	40		2.5	
6	75	0.58	1.0	881.748	131	260	231	40	37	40		2.0	
	825	0.58	1.0	886.006	131	262	232	41	3.7	40		2.0	POST & 1405
	90	0.77	1.4	890-10	131	2.53	230	42	38	39		4.0	RESPORT 1407
	97.5	0,80	1.4	894.93	131	258	231	43	40	41		4.0	100
2	105	0.81	L5	894.85	132	262	231	44	41	42		40	
	1/2.5	0.81	US.	904.87	132	263	230	44	41	42		4.0	
3	120	0.83	. (5	909.92	132	258	230	44	41	44		4.0	
	127.5	0.85	1.5	915,00	132	265	230	4.5	44	44		4,0	
4	135	0.81	_U.S	920.11	132	263	231	44	42	45		40	
	142,5	0.84	Š	125-22	131	255	230	47	42	44		4,0	
5	150	0.75	1,4	930,32	[3]	251	229	50	43	43		40	
	S7.5	5.75	1.4	435,=	131	259	229	Si	4.6	43		14:0	
6	165	0,69	13	940/19	131	262	229	52	49	4.3		4.0	
	172,5	0.71	(-3	945,26		263	231	51	47	44	<u> </u>	4.0	
End	180			949,704							_1		END 1537
											 		7
		· .											
			***		,		*						

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

	c/L -		IMPINGER YOU'S	Orsat
Sampling Train Method 0023A (D/F)	Barometric Pressure 27, 6	LEAK CHECKS in "Hg	INIT. FINAL RINSE	CO2 O2
Run Number CI-RT-R3 (+Wee)	Static Pressure (+/-) + 1.9	INITIAL VAC. 15 in. CFM & COS		
Client Norlite Corporation	Probe/Pitot Number MS-S-G	MID VAC. in. CFM	100	4.38 14.56
Facility Location Cohoes, NY	Pitot Coefficient 0.34	FINAL VAC. 5 in. CFM 6.002	100	
Source Kiln 1 Exhaust Stack	Filter Box No.	+ -/ + -/	0	
Date January 12, 2011	Meter Box No. 808030	INIT. PITOT VV FINAL PITOT VV	SG	
Operator C. Cowley	Orifice Coefficient (Y) D. 9872	FILTER DATA		
Stack Dia in. 48	Delta H@	NUMBER TARE		- 12 C 2 C
Start Time 1903 1034	Nozzle Size/No. 7.233			
Stop Time 1033 1204	XAD Thermocouple ID: 40-		SILICA GEL Final Purge	Rate
	Imp Outlet TC ID: 6-1-2		332,0 754,2 Final PH	

SAMPLE	CLOCK	VELOCITY	5 ORIFICE	GAS METER	TEMPERATURE READINGS, °F					PUMP			
POINT	TIME	HEAD	METER VOL.	VOLUME	7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ľ		ORGANIC		GAS	METER	VACUUM	COMMENTS
#66.EST 15586		DeltaP, in wc	DeltaH, in we	in the second	STACK	PROBE	OVEN	MODULE	IMPINGER	IN	OUT	In, Hg	
	0	0.62	1-10	452.844	126	242	230	30	27	25	11/4	1-0	Start 0903
	7-5	0.61	11	157.16	126	240	229	30	29	21	1	1.0	
12_	ìS.	0.78	1.4	961.48	127	540	227	.31	30	30		100	
	22.S	0 78	1,4	966 27	128	262	229	33	13/	31		1.0	
3_	30	0.77	1,4	971.0	128	266	233	38	3.2	32		1,00	
	37.5	0 78	1.4	974,98	128	265	232	42	3.3	33		10	
H	45	0.74	1.3	950.76	124	260	230	46	36	33		1,0	
<u> </u>	52.5	0.77	1.4	945/38	128	257	230	52	36	.35			
5	60	0.69	1.2	190.22	125	260	224	56	39	37		10	
	67,5	0.68	1/2	994,69	128	261	228	57	42	33		1.0	
6	75	0.65	1,2	449.21	129	261	228	53	43	40		1.0	
	62S	0.65	1.2	1003.66	124	261	229	60	45	42		1.10	POTLA 1035
	90	0.71	1,3	1008.14	126		228	59	44	43		10	Restart 1034
	97.5	0.71	1.3	1017,80	129	262	228	60	43	44		10	10.21
2	105	0.76	1,4	1017,50	131	262	229	61	45	45		1.0	
	1122	0.76	1.4	1022,32	131	262	230	62	45	46		10	
3	120	0.72	1.3	1027.17	131	262	233	63	46	46		7,0	
	127.5	0.68	1,2	1031,90		262	228	61	43	47		1,0	
4	135	19,75	1,4	1036,35	131	262	229	59	42	46		(.0	
		W177	4,4	1041.18	(3)	Z6Z	230	60	41	43	-	1.0	
5	150	0.71	1-3	1046 34	131	262	274	60	ut/	44			
	157.5	0.73	1/3	1050,71		2/. 2	23	60	44	44		1,0	
6		0.67	1,2	(0 SS. 38		262	230	61	45	15	li li	1,0	
	172.5	Ø .65	1,2	1059,70	131		230	60	45	45	4 -	(0	
End	180	<u> </u>		1064 420			<i></i>			- T			and 1204
	100			1-0-(1-120				<u> </u>			1		- CI 1201
											· ·		
							-						·



SAMPLE TRAIN MOISTURE RECOVERY DATA SHEET

Refere	Reference Method / Sampling Train : M0023A - PCDDs/PCDFs CPT													
Recovere	ed by: \mathcal{D}	. Roeck			Recovere	ed by: 🏻 🏻 🏖	OR/F.	S		Recovered by: FS				
Run No.	CIRT-RI	Date: 🚓	114/	2011	Run No.	CIRT-RQ	Date: 0.	1/11/20	7. E	Run No. <i>C≀RT∼R</i> ᢃ Date : <i>o≀/パ</i> /2 <i>o≀</i> /				
XAD Mod	lule No. : S	719293	Σ		XAD Module No.: 57/9295					XAD Mod	dule No. : :	5-1929	5	
Filter #:		Tare:	N/A		Filter #: N/A Tare: N/A					Filter # :	N/A	Tare:	N/A	
In	pinger No.	and Volur	ne		Impinger No. and Volume					Impinger No. and Volume				
	Initial	Final	Rin			Initial	Final	Rinse	- 1		Initial	Final	Rinse	
No.	(mL)	(mL)	(m	<u>L) </u>	No.	(mL)	(mL)	(mL)		No.	(mL)	(mL)	_ (mL)	
1	0	216 124	~/ \	'A	1	0	250 98	N/1	7	1	0	250 65	N/A	
2	100	100			2	100	102			2	100	104		
3	100	100			3	100	98			3	100	98		
4	0	0		/	4	0	/			4	0	4		
5	SG		1		5	SG		1		5	SG		1	
6					6					6				
7			DIF	F :	7			DIFF		7			DIFF:	
Totals	200	540	34	0	Totals	200	549	349	7	Totals	200	521	321	
	Initial	Final				Initial	Final		200 Mg V		Initial	Final		
	(g)	(g)	DIF	F:		(g)	(g)	DIFF	:		(g)	(g)	DIFF:	
Silica Gel	336.3	35 <i>7.5</i>	2/	2	Silica Gel	333.4	355.4	22.	0	Silica Gel		354.2	·	
XAD Trap	1 0:0 0 1205 0 1 1616		6	XAD Trap	3/6.5	329.9	13.	4	XAD Trap	294.5	3042	9-7		
Final N	let Moisture	Gain:	<i>37à</i>	.8	Final Net Moisture Gain: 384.4					Final Net Moisture Gain: 352,9				

HPLC Water	Methylene Chloride	Taluene	
Fisher Scientific	Fisher Scientific	Fisher Scientific	
Lot 104416	Lot 102647	Lat 105615	
·			



METHOD 2 GAS VELOCITY AND VOLUME DATA SHEET

Date:	•	1/12	111	s, NY Po							-
Bar. P	ress. (in	. Ĥg) :	52-in	1.36		Kiln 1	- Baghbu	se Sutlet (Scr	ubber Inlet)		
)	or 0.99	(Circle or	ne)				7		7	
Wet B Dry Bu	ulb Tem ılb Temp	o. (°F) :			-		Ludde				
	Prelia	i. Travers	se pu u 1A	ion to		SCHE	MATIC (OF STACK	CROSS SE	ECTION]
Pt. #	Pos. (in.)	Vel. DP (in. H ₂ O)	Stack Temp. (°F)	Flow Angle that Yields a Null DP		Pt. #	Pos. (in.)	Vel. DP (in. H ₂ O)	Stack Temp. (°F)	Flow Angle that Yields a Null DP	ive
<u> </u>		1	123					090	1:21		
2		1.2	12.3			2		1-1	124		
3		1,2	123			3		1-2	(25		F/2
나			124			-tf		1-2	125		1/2
5			125			9		1.1	126		
6		0,95	126			6		0.94	[26	,	
			, ,		Political States of the		I		ı		41
	Date: Opera Stack Bar. P Static Cp: O2 (% CO2 (% Wet B Dry Bu	Bar. Press. (in Static Press. (Cp: (0.84) O ₂ (%) CO ₂ (%) Wet Bulb Tempory Bulb Tempory Bulb Tempory Bulb Tempory Bulb Tempory Bulb Tempory Bulb Tempory Bulb Tempory Bulb Tempory Bulb Tempory Bulb Tempory Bulb Tempor	Date:	Date :	Date :	Date:	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Date: 1/12/11 Port Diam.: (x) Operator(s): Crowley Stack Diameter (in.): 52-in Bar. Press. (in. Hg): 79.78 G Static Press. (in. HgO) Cp: (0.84) or 0.99 (Circle one) O2 (%) CO2 (%) Wet Bulb Temp. (°F): Dry Bulb Temp. (°F): Prelim. Trawerse prior to Condition 1A SCHEMATIC (Pt. Pos. DP Temp. that Yields Pt. Pos. # (in.) # (in.) (in. H2O) (°F) a Null DP # (in.) 1	Date: $1/i2/II$ Port Diam: V or \Re Operator(s): $C/\omega J/iE/y$ Stack Diameter (in.): $52'$ in Bar. Press. (in. Hg): 79.36 Killn 1 - Baghbuse Gutlot (Scr Static Press. (in. H ₂ O) Cp: (0.84) or 0.99 (Circle one) O ₂ (%) CO ₂ (%) Wet Bulb Temp. (°F): I I I I I I I I I I	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Date :

C:\Documents and Settings\roeckd\My Documents\PROJECTS\NORLITE\CY2010\Field Prep\[Method 2 Form.xisx]A

 $\Delta P A v q = 1.09$ $T_{S} a v q = 124$

Method 0023A (PCDDs/PCDFs) Sampling Parameters MACT CPT Condition 1A - Norlite Kiln 1											
MACT	CPT Conc	iition 1A	- Norlite P	Kiln 1							
Run No.		C1A-R1	C1A-R2	C1A-R3							
Date		12-Jan-11	13-Jan-11	13-Jan-11							
Start Time	Units	13:33	08:33	12:00							
Stop Time		16:35	11:35	15:30	AVGS						
Nozzle Diameter	inches	0.223	0.223	0.223	0.223						
Barometric Pressure	in. Hg	29.60	30.05	30.10	29.92						
Net Sampling Time	min.	180.0	180.0	180.0	180.0						
Volume Metered	dcf	137.378	141.288	135.315	137.994						
Avg. DGM Temp.	°F	41.6	37.5	38.6	39.2						
Avg Delta H	in H₂O	1.93	2.04	1.89	1.95						
Avg Delta H	in. Hg	0.1415	0.1498	0.1391	0.1435						
DGM Calibration Factor		0.982	0.982	0.982	0.982						
Gas Sample Volume	dscf	141.163	148.628	142.208	144.000						
Total Water Collected	mL	437.1	448.3	409.7	431.7						
Volume of Water Vapor	scf	20.609	21.137	19.317	20.355						
Moisture (measured)	% v/v	12.7	12.5	12.0	12.4						
Moisture (@ saturation)	% v/v	12.6	12.8	12.7	12.7						
Dry Mole Fraction		0.8740	0.8755	0.8804	0.8766						
CO ₂ at Stack	% dry	3.87	3.93	3.98	3.93						
O ₂ at Stack	% dry	15.57	16.13	16.09	15.93						
CO + N ₂	% dry	80.56	79.94	79.93	80.14						
Dry Molecular Weight	lb/lb-mole	29.24	29.27	29.28	29.27						
Wet Molecular Weight	lb/lb-mole	27.83	27.87	27.93	27.88						
Excess Air at Stack	%	273.3	324.3	321.1	306.2						
Stack Diameter	inches	48.0	48.0	48.0	48.0						
Stack Area	sq. in.	1809.6	1809.6	1809.6	1809.6						
Static Pressure	in H₂O	1.50	1.30	1.30	1.37						
Stack Pressure	in. Hg	29.71	30.15	30.20	30.02						
Avg. Stack Temp.	°F	123.8	124.7	124.6	124.4						
Avg. Sqroot of Delta P		1.0263	1.0615	1.0180	1.0353						
SDE Average		24.799	25.668	24.615	25.027						
Pitot Coefficient		0.84	0.84	0.84	0.84						
Stack Gas Velocity	afpm	3,717	3,816	3,652	3,728						
Stack Flowrate	wet acfm	46,705	47,954	45,898	46,852						
Stack Flowrate	wet scfm	41,942	43,629	41,834	42,469						
Stack Flowrate	dscfm	36,658	38,197	36,831	37,229						
Isokinetics	%	99	100	99	100						
Meter Box No.		0808030	0808030	0808030							
Delta H @	in. Hg	1.833	1.833	1:833							
Field QA Yqc		0.981	0.969	0.975	0.975						
[Deviation] Pre-Y	%	0.12%	1.31%	0.67%	0.70%						

QC Date Init

MACT CPT Condition 1A - Norlite Kiln 1

	C1.	A-R1 AV	GS PC	DDs / PO	CDFs	C1A-R2 AVGS PCDDs / PCDFs				C1A-R3 AVGS PCDDs / PCDFs					
PT	DP	SQRT DP	DGM TEMP	DH	STACK TEMP	DP	SQRT DP	DGM TEMP	DH	STACK TEMP	DP	SQRT DP	DGM TEMP	DH	STACK TEMP
a1	0.90	0.9487	35	1.60	125	1.10	1.0488	24	1.90	123	1.10	1.0488	37	2.00	124
	0.91	0.9539	36	1.60	125	1.10	1.0488	25	1.90	123	1.00	1.0000	38	1.80	124
a2	1.20	1.0954	37	2.20	125	1.30	1.1402	27	2.30	124	1.20	1.0954	38	2.20	123
	1.20	1.0954	40	2.20	125	1.20	1.0954	29	2.10	124	1.20	1.0954	39	2.20	124
a3	1.20	1.0954	40	2.20	125	1.30	1.1402	31	2.30	124	1.20	1.0954	40	2.20	123
	1.20	1.0954	41	2.20	124	1.20	1.0954	32	2.10	125	1.20	1.0954	40	2.20	124
a4	1.10	1.0488	41	2.00	125	1.10	1.0488	34	2.00	125	1.20	1.0954	41	2.20	125
	1.10	1.0488	42	2.00	125	1.10	1.0488	35	2.00	125	1.20	1.0954	41	2.20	124
a5	1.10	1.0488	43	2.00	124	1.10	1.0488	37	2.00	125	1.10	1.0488	41	2.00	125
	1.10	1.0488	44	2.00	125	1.10	1.0488	37	2.00	126	1.10	1.0488	41	2.00	124
a6	0.96	0.9798	44	1.80	124	0.98	0.9899	38	1.80	125	0.99	0.9950	40	1.80	125
	0.96	0.9798	45	1.80	125	1.00	1.0000	39	1.80	126	0.98	0.9899	40	1.80	124
b1	0.80	0.8944	45	1.50	124	1.10	1.0488	38	2.00	125	0.81	0.9000	39	1.40	123
	0.83	0.9110	45	1.50	121	1.10	1.0488	39	2.00	124	0.82	0.9055	39	1.50	124
b2	1.10	1.0488	45	2.00	121	1.20	1.0954	40	2.20	125	1.20	1.0954	32	2.10	124
	1.20	1.0954	44	2.20	122	1.20	1.0954	40	2.20	124	1.10	1.0488	34	2.00	125
b 3	1.20	1.0954	43	2.20	123	1.20	1.0954	41	2.20	124	0.98	0.9899	37	1.80	125
	1.20	1.0954	42	2.20	124	1.20	1.0954	43	2.20	125	0.93	0.9644	37	1.70	125
b4	1.10	1.0488	41	2.00	123	1.20	1.0954	44	2.20	124	1.00	1.0000	38	1.80	126
	1.10	1.0488	40	2.00	124	1.20	1.0954	45	2.20	126	1.10	1.0488	38	2.00	125
b5	1.00	1.0000	40	1.80	122	1.10	1.0488	45	2.00	125	0.95	0.9747	39	1.70	127
	1.00	1.0000	41	1.80	123	1.10	1.0488	45	2.00	126	0.97	0.9849	39	1.80	126
b6	0.95	0.9747	42	1.70	123	0.96	0.9798	46	1.80	125	0.81	0.9000	40	1.50	126
	0.96	0.9798	42	1.70	125	0.95	0.9747	46	1.70	125	0.84	0.9165	39	1.50	126
		SFEELWA							<u>Eren</u>						ing and the second of the seco
AVG	1.06	1.0263	41.6	1.93	124	1.13	1.0615	37.5	2.04	125	1.04	1.0180	38.6	1.89	125

QC Date Init
CLC 1/17/11



PUMP

A≣COM

SAMPLE

POINT

CLOCK

TIME

VELOCITY

HEAD

ORIFICE

METER VOL.

GAS METER

VOLUME

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train Method 0023A (D/F)	201		IMPINGER VOL'S.	Orsat
	Barometric Pressure 2416	LEAK CHECKS in "Hg	INIT. FINAL	RINSE CO2 O2
Run Number C/A-R1 16WE)	Static Pressure (+/-) + 1.5	INITIAL VAC. 16 In. CFM 0.014	0	A 102
Client Norlite Corporation	Probe/Pitot Number 115-5-6	MID VAC. in. CFM	100	3.87 15,57
Facility Location Cohoes, NY	Pitot Coefficient O. 84	FINAL VAC. 77 in. CFM CAPIT		
Source Kiln 1 Exhaust Stack	Filter Box No.	+ - + -	100	
Date January 2,2011	Meter Box No. 808030	INIT, PITOT V FINAL PITOT	SG	 [
Operator C. Clowiez	Orifice Coefficient (Y) 0,982	FILTER DATA	30	
, Stack Dia in. 48	Delta H@ 1.833	NUMBER		9707 ***********************************
Start Time (333 (505)	Nozzle Size/No. 0.223		<u> </u>	[38] [38] (1) [4] [4] [4]
Stop Time <u>(SO 3 CG 35</u>	XAD Thermocouple ID: XAD-12		SILICA GEL	Final Purge Rate
What the Deliance that the property and the property of the pr	Imp Outlet TC ID: LI-Z		7-1 0 2/- 5	Final PH

TEMPERATURE READINGS, °F

ORGANIC GAS METER VACUUM COMMENTS DeltaP, in we DeltaH, in we in ft? STACK PROBE OVEN MODULE IMPINGER IN OUT in. Hg 64,102 32 35 1,0 SA/ 1333 1 1,6 36 34 7-0 2 37 1 37 60 40 22.5 2,7 80.77 40 36 81 25 40 40 32-5 2 124 41 40 H 42 52 41 4,0 52,5 0 43 230 53 4つ 47) 60 2 110,62 124 55 43 57 124 259 48 44 82.5 0,46 49 40 Post A 1503 90 (B) 19 5 44 ロザ RESTAT 1505 97.5 0,503 1.5 138,73 57 45 45 105 2,0 143 8 45 44 40 112,5 232 1/2 144,79 122 46 \mathcal{O} 156.0 4 43 5-10 2 122S 1-2 12.4 232 47 60 5,0 42 2 59 47 41 50 أيا 59 47 40 5.0 1,0 122 40 5 40 41 W.0 53 255 83 42 3-5 0.96 235 125 49 47 END 02.080

END 1635

A	COM		EPA ISC	KINETIC S	SAMP1	LING -	FIEL	D DATA	SHEE'	\mathbf{T}						
Sampling	Norlite Corporation Kiln 1 Exhaust January 13	Method 0023A R 2 (1w0) ration Cohoes, NY t Stack 2, 2011 ration 48	(D/F)	Barometric Pressur Static Pressure (+/- Probe/Pitot Number Pitot Coefficient Filter Box No. Meter Box No. Orifice Coefficient Delta H @ Nozzle Size/No. XAD Thermocouple	20. 1.5- 0.5 \$\frac{\fir}{\frac{\fir}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\fri	05 3 5-6 4 9 030 82 33 23	LEAK CH	ECKS in "Hg VAC. $\sqrt{5}$. AC. 6 + - OT $$		0.015 <u>0.011</u> + 1	100 100 100 0 SG	0	R VOL'S FINAL	RINSE	Orsat C02 02 3.13 6.13	=
			-	Imp Outlet TC ID:	LI	-2				-	326.6	2 z	347, Z	Final PH	·	
SAMPLE POINT	CLOCK	VELOCITY HEAD DeltaP, in we	ORIFICE METER VOL. DeltaH, in we	GAS METER VOLUME	STACK	TI PROBE	MPERA OVEN	ORGANIC MODULE	ADINGS,	°F	METER OUT		PUMP VACUUM in. Hg		COMMENTS	-
<u>i</u>	0		40 2.0 1.9	202432	123	257	228	39	26	24	11/	4	1.0	Ctost	0833	_
	7-5	1-1	1.9	207.89	123	254	228	4/	28	25	1		110	27-41		<u>ح</u> ـــ
2	15	<u>L3</u>	23	213.50	124	251	229	42	28	27			30			
<u> </u>	22.5	1.2	251	219.74	124	253	224	45	29	29			3.0			_
3	30	13	2.3	225,70	124	253	230	46	30	31			3-0			
<u> </u>	37.5	1,2	2.1	231,94	125	254	229	47	3/	32			3,0			_
너	45	7.1	2.0	238,00	125	255	228	48	37	34			3-0			
Í <u></u>	52.5	1-1	2.0	244,23	125	255	230	917	33	35			3-0			
5	60	1/1	2.0	750,03	125	254	230	49	33	37			3.0	 -		_
	67,5	î.l	20	255,65	126	255	231	49	33	27			3.0			
6	75	0.48	1.8	261.45	125	252	231	44	33	38			20			-
	82.5	1.0	18	266,49	126	255	229	50	34	39		- 15	7.0	Ports	5 1003	
1	90	<u>i, - i</u>	2.0	272,55	125	259	229	43	3/	38			3,0		(+100S	_
	97.5		2.0	278,30	124	258	229	49	33	39			3.0	7 <u>1, 50 7/91</u>	11 1000	
2	105	1.2	22	253.99	125	259	230	43	34	40			4.0			
	112,5	1.2	2,2	290.17	124	258	238	1+6	35	140		\dashv	и 0			_

	7000	1 1 1		しん(カングン	1 1 2 7	1250	1001	140	1.22	ライ		%.2	
2	105	1.2	2.2	253.99	125	259	230	43	34	ub		4.0	
	112,5	1.2	2/2	290.17	124	258	238	2+6	35	40		4.0	
3	120	1.2	1/2	296,27	124	260	231	49	36	41		4.0	
	127/	1.2	2.2	300 HO	125	261	23	SI	37	43		4,0	
4	135	1,2	2.2	308,58	124	261	230		39	244		4.5	
	142,5	1.2	2.2	314,73	126	261	229	52	20	45		5.5	
5	150	1 .	2.0	320-18	125	261	228	51	39	US		40	
	157.5	il	2.0	326,82	126	200	229	52	40	45		4,0	
6	165	0.96	1-8	332.70		259	224	51	40	46		4,0	
	172,5		1.7	338,80	125	260	228	51	47	26		4.0	
GNd	180			343,720							4		End 1135
			 				 					<u> </u>	

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

	a 30,	· t	IMPINGER VOL'S.	Orsat
Sampling Train Method 0023A (D/F)	Barometric Pressure	LEAK CHECKS in "Hg	INIT. FINAL RINSE	CO2 O2
Run Number CIA-R2 (Three) 18884	Static Pressure (+/-) + 13	INITIAL VAC. 16 in. CFM 0.014		
Client Norlite Corporation	Probe/Pitot Number M5-5-6	MID VAC. 8 in. CFM 0.013	100	3.98 16.01
Facility Location Cohoes, NY	Pitot Coefficient 0.84	FINAL VAC. It in. CFM O.014		
Source Kiln 1 Exhaust Stack	Filter Box No.	+ -/ + -/	0	
Date January 23, 2011 /3	Meter Box No. 508030	INIT. PITOT V FINAL PITOT V	SG	
Operator C. Crow Cy	Orifice Coefficient (Y) 0.982	FILTER DATA		
Stack Dia in. 48	Delta H@ /_833	NUMBER TARE		
Start Time 1200 19:32 1415	Nozzle Size/No. 0.223			
Stop Time 19:30 13:47 1530	XAD Thermocouple ID: XA-Q		SILICA GEL Final Purge	Rate
	Imp Outlet TC ID: LT-Z	322.0	225:0 347.3 Final PH	

Commence Republication and the commence of the	Precing the Steep and Co.	and the second of the second of the second		map Outlet TC ID:	<u></u>						725 E	34115	Final PH
SAMPLE	CLOCK	VELOCITY	ORIFICE	GAS METER		TE	MPERA	TURE RE	ADINGS, '	°F		PUMP	
POINT	TIME	HEAD DeltaP, in we	METER VOL.	VOLUME		Military at a second	100	ORGANIC			METER	VACUUM	COMMENTS
P(Calabino S., . (a)	0	1	DeltaH, in we	TP	STACK		OVEN	MODULE	IMPINGER	IN	OUT	in, Hg	
		1.1	2.0	344,060	124	257	230	43	30	37	NA	1.0	St-1+ 1200
<u> </u>	7.5	1-0	[-8	347.67	124	254	231	45	30	38		1.0	
	15	1/7	2:2	355,04	123	258	230	48	31	38		30	
	22.5	(-2	2.2	361.20	124	258	229	SO_	32	37		3-0	
3	30	1-2	2.2	367-33	123	261	229		34	40		3.0	
1.	37.5	i_2_	2.2	373,56	124	261	230	54	35	40		30	
4	45	1,2	2,2	579,74	12-5	261	230	56	-36	41		3,0	
	52.5	1.2	2.2	385,89	124	260	128	55	36	241		3,0	
5	60	10	2.0	392-04	125	260	228	56	37	41		3.00	
	67.5	7-1	2.0	397.95	124	261	230	86	37	41		3.0	
<u></u>	75	0,99	(.8	403 84	125	260	230	57	38	40		2.0	
	82.5	0.98	1.8	409.439	124	259	231	56	38	40		2.0	Post A 1330
	90	0.61	1.4	415.100	123	260	230	54	35	39		1.0	1ROSPART 1332
	97.5	0.82	1.5	419.875	124	259	231	55	36	39		1.0	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
2	105	1-2-	2.1	425.059	124	259	230	55	34	32		3.0	Leite V 426,622
	1625	1-1	20	431,97	125	258	228	35	Ч3	34		3.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
_ 3	120	0,48	1.8	437.84	125	256	228	43	42	37		2.0	
	127.5	0,93	1,7	443,41	125	257	229	体厂	38	37		1,8	
4	35	1.0	1,8	448.80	126	255	224	39	37	38		1-0	•
	142.5	1-1	2,0	454,33	125	258	229	40	36	38	<u> </u>	30	
5	SO	0,95	1,7	460,20	127	257	231	40	36	31		7.0	
	157,5	0,97	1-8	465.85	126	196	231	40	37	31	· · · ·	2.0	
6	165	0.81	<u> </u>	471,11	126	249	230	40	37	чo		20	
	l 72.5	13.84	(5	475-95	126	254	230	40	37	39	11	2.0	
END	180			480,938	7						4		END 1530
										_			CARACTA (
											• •		
								· - · · · · · · ·					

NEICVP1120E01

Appendix CAA A Page 783 of 1159 Norlite@LC CLC Cohoes, New York

14:151



SAMPLE TRAIN MOISTURE RECOVERY DATA SHEET

Reference Method / Sampling Train: M0023A - PCDDs/PCDFs CPT Recovered by: FS Recovered by: FS Recovered by: FS											
Recover	ed by: F	Ŝ		Recover	ed by: 🔑	īs -		Recovere	ed by: 🔑	S	
Run No.	CIA-RI	Date : 0	1/3/201				113/2011				113/2011
	dule No. : 5			li .	dule No. :			XAD Module No.: 57/9295			
Filter#:	N/A	Таге:	N/A	Filter #:	N/A	Tare:	N/A	Filter #: N/A Tare: N/A			
ir	npinger No.	and Volu	me	In	npinger No.	and Volui	me	In	ne		
	Initial	Final	Rinse	 	Initial		Rinse	-	Initial	Final	Rinse
No.	(mL)	(mL)	(mL)	No.	(mL)	(mL)	(mL)	No.	(mL)	(mL)	(mL)
1	0	248 127	NA	1	0	250 148	N/A	1	0	223 139	NIA
2	100	110		2	100	108		2	100	104	
3	100	103		3	100	102	-	3	100	99	
4	0	7		4	0	8		4	0	4	
5	SG		1	5	SG		1	5	SG		V
6				6				6			,
7			DIFF :	7			DIFF:	7			DIFF :
Totals	200	595	395	Totals	200	616	416	Totals	200	569	369
	Initial (g)	Final (g)	DIFF:	mm.c.ca. Philipp	Initial (g)	Final (g)	DIFF:		Initial	Final	
Silica Gel	329.8			Silica Gel		349.Z		Silica Gel	(g) 322.0	(g) 3 <i>47</i> , 3	25, 3
XAD Trap	300.4	311.7	11.3	XAD Trap	304.1	313.2	9.1	XAD Trap	311.9	327,3	15.4
Final N	Net Moisture	Gain:	437.1	Final N	let Moisture	e Gain:	448.3	Final N	let Moistur	e Gain:	409.7
	(437.1)										

Norlite MACT CPT - January 2011													
VOST Meter Temperature Readings, °C													
Run#	1	2	3	4	5	6	7	8	9	10	AVG		
1A	0.0	0.0	0.0	1.0	1.0						0.4		
1B	1.0	2.0	2.0	2.0							1.8		
1C	3.0	3.0	3.0	3.0							3.0		
1D	3.0	3.0	3.0	3.0							3.0		
2A	-4.0	-4.0	-3.0	-3.0							-3.5		
2B	-2.0	-2.0	-2.0	-1.0							<i>-</i> 1.8		
2C	-2.0	-2.0	-2.0	-2.0							-2.0		
2D	-1.0	-1.0	0.0	0.0						:	-0.5		
3A	0.0	-2.0	-2.0	-2.0							-1.5		
3B	-1.0	-1.0	-1.0	-1.0							-1.0		
3C	-1.0	-1.0	-2.0	-2.0							-1.5		
3D	-1.0	-1.0	-2.0	-2.0							-1 .5		

QC DAR 1/18/11

			VOST DAT	A SHEE	T					
PROJECT NO.	60163411, Tas	k 200		DATE /	112/11					
CLIENT	Norlite Corpor	ration		OPERATOR R. BURMS						
FACILITY	Cohoes, NY			BAR. PRESSURE, in. Hg 29.6						
SOURCE	Kiln#1		·-·	PROBE LEI		3 '				
SAMPLING LOCA	ATION	Exhaust St	ack	DESIRED P	ROBE TEMP.		3			
METER CALIBRA	ATION FACTOR	m /-0	577	PROBE PU		/				
DRY GAS METER					LOW RATE (L	nm)	1.0			
	IA			-						
SORBENT TUBE NO		16 - A3		DESIRED S	AMPLE VOLU JRE, in. H ₂ O	I.S	20			
Train Leak Check			17		0,0	*****	ec.			
Train Leak Check			5	Leak Rate :	0.0	in. Hg in 60 se				
SAMPLING	CLOCK	FLOW	RIA: Leak Rate < 2.5 r		g) after 60 sec. RATURE REA	DINGS	PUMP			
TIME	TIME	RATE	METER	PROBE	DRY GAS	TRAP	VAC.			
(min)	(24-hr)	(Lpm)	READING (L)	(°C)or °F)	METER (°C or °F)	(°C or °F)	(in. Hg)			
0	1403	10	8985.28	128	0	3	4			
5	1408	1.0	8990,41	129	0	3	ン			
10	1413	1.0	8995.40	129	0	3	4			
15	1418	1.0	9000.36	130	1	3	4			
20	/423	1-0	9005.32	130	į	4	4			
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COMMENTS:	<u> </u>	<u> </u>								
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Laboratory Lot #:										
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	VOST DATA SHEET											
PROJECT NO.	60163411, Tas	k 200	<u> </u>	DATE	ilizho	,						
CLIENT	Norlite Corpor	ation		OPERATOR	i fizfro	vens						
FACILITY	Cohoes, NY			BAR. PRES	SURE, in. Hg	29.6	2					
SOURCE	Kiln #1			PROBE LEI	NGTH (ft)	3 '						
SAMPLING LOCA	ATION	Exhaust St	ack	DESIRED P	ROBE TEMP.	130°C ± 5°C	·					
METER CALIBRA	ATION FACTOR	(Y) 10	577	PROBE PUI	RGED?	/						
DRY GAS METER	RNO. VO14	<u> </u>		DESIRED F	LOW RATE (L	pm)	1.0					
RUN NO.	RIB			DESIRED S	AMPLE VOLU	ME (dsL)	20					
SORBENT TUBE NO	o's. <u>2017 - 1</u>	6-06A	3 C	DGM PRESSU	JRE, in. H₂O	18						
Train Leak Check	INITIAL VACUUM	(in. Hg):	15	Leak Rate :	0.0	in. Hg in 60 se	c.					
Train Leak Check			SIA: Leak Rate < 2.5	Leak Rate:		in. Hg in 60 se	c.					
SAMPLING	CLOCK	FLOW	GAS		RATURE REA	DINGS	PUMP					
TIME	TIME	RATE	METER READING	PROBE	DRY GAS METER	TRAP	VAC.					
(min)	(24-hr)	(Lpm)	(L)	(°C)or °F)	(Co or °F)	(Cor °F)	(in. Hg)					
0	1433	1.0	9006-04	130	/	5	4					
5	1438	1.0	9011.98	130	2.	5	4					
10	1443	1.0	9016.03	130	2	5	4					
15	1448	1.6	9026.84	129	2	5	4					
20	1453	1.0	9025.58									
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COMMENTS:												
												
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Laboratory Lot #:	Laboratory Lot #:											
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			VOST DAT	A SHEE	T		
PROJECT NO.	60163411, Tas	k 200		DATE	1/12/10)	
CLIENT	Norlite Corpor	ation		OPERATOR	1 - 2	erns	
FACILITY	Cohoes, NY			BAR. PRES	SURE, in. Hg	29.	6
SOURCE	Kiln #1			PROBE LEI	NGTH (ft)	3'	
SAMPLING LOCA	ATION	Exhaust St	ack	DESIRED P	ROBE TEMP.	130°C ± 5°C	;
METER CALIBRA	ATION FACTOR (Y) /. &	5 7 7	PROBE PUI	RGED?	<i>[</i>	
DRY GAS METER	RNO. 1019			DESIRED F	LOW RATE (L	om)	1.0
RUN NO.	RIC				AMPLE VOLU		20
SORBENT TUBE NO	o's. 2017	1-016 ^	64 ABC	DGM PRESSL		1.8	
Train Leak Check		•	15	Leak Rate :	0.0	in. Hg in 60 se	c.
Train Leak Check			RIA: Leak Rate < 2.5 r	Leak Rate:		in. Hg in 60 se	c.
SAMPLING	CLOCK	FLOW	GAS	í	RATURE REA	DINGS	PUMP
TIME	TIME	RATE	METER READING	PROBE	DRY GAS	TRAP	VAC.
(min)	(24-hr)	(Lpm)	(L)	© or °F)	METER (O or °F)	(Cor°F)	(in. Hg)
0	1504	1.0	9026.05	129	3	5	4
5	1589	1.6	9029 96	130	3	5	4
10	1514	1.0	9034.95	129	3	5	Y
15	1519	1.0	9039.88	129	3	5	4
20	1524	1.0	9044.86				
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COMMENTS:					-		
COMMENTS:			· · · · · · · · · · · · · · · · · · ·				

Laboratory Lot #:							

	VOST DATA SHEET											
PROJECT NO.	60163411, Tas	k 200		DATE	1/12/10	>						
CLIENT	Norlite Corpor	ation		OPERATOR	ZB	ions	-					
FACILITY	Cohoes, NY	<u> </u>		BAR. PRES	SURE, in. Hg	29.	6					
SOURCE	Kiln # 1	- -		PROBE LE	NGTH (ft)	3'						
SAMPLING LOCA	ATION	Exhaust St	ack	DESIRED P	ROBE TEMP.	130°C ± 5°C						
METER CALIBRA	TION FACTOR (Y) / . G.	527	PROBE PU	RGED ?	1						
DRY GAS METER	NO. VO!	1		DESIRED F	LOW RATE (L	pm)	1.0					
RUN NO.	RID			DESIRED S	AMPLE VOLU	ME (dsL)	20					
SORBENT TUBE NO	rs. 2017	16.03	ABC	DGM PRESSU	JRE, in. H₂O							
Train Leak Check			15	Leak Rate :	0.0	in. Hg in 60 se	ec.					
Train Leak Check			ST RIA: Leak Rate < 2.5 m	Leak Rate: 4		in. Hg in 60 se	ec.					
SAMPLING	CLOCK	FLOW	GAS	-	RATURE REA	DINCS	PUMP					
TIME	TIME	RATE	METER	PROBE	DRY GAS	TRAP	VAC.					
(min)	(24-hr)	(Lpm)	READING (L)	(Cor°F)	METER ② or °F)	(Ĉor °F)	(in. Hg)					
0	1537	10	9045 10	129	3	5	5					
5	1542	1.0	9050.11	130	3	5	5					
10	1547	1.0	9055.15	129	3	5	5					
15	1552	1.0	9060.08	129	3	_5	_5					
20	1557	1.0	9065-06		7 <u>1.00</u>							
COMMENTS:		-										
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Laboratory Lot #:				,								
Laboratory Lot #.												

VOST DATA				A SHEE	T			
PROJECT NO. 60163411, Task 200				DATE 1/13/11				
CLIENT Norlite Corporation				OPERATOR R. Burns				
FACILITY Cohoes, NY				BAR. PRESSURE, in. Hg 30.05				
SOURCE Kiln # 1				PROBE LENGTH (ft) 3				
SAMPLING LOCATION Exhaust Stack				DESIRED PROBE TEMP. 130°C ± 5°C				
METER CALIBRA	METER CALIBRATION FACTOR (Y) 1.0577				PROBE PURGED ?			
DRY GAS METER NO. VO14			DESIRED FLOW RATE (Lpm) 1.0					
RUN NO.	R2A				DESIRED SAMPLE VOLUME (dsL) 20			
SORBENT TUBE NO'S. 2617-16-20 ABC				DGM PRESSURE, in. H ₂ O /. 8				
Train Leak Check INITIAL VACUUM (in. Hg):				Leak Rate: 6.6 in. Hg in 60 sec.				
Train Leak Check FINAL VACUUM (in. Hg):				Leak Rate: 6,0 in. Hg in 60 sec.				
SAMPLING	CLOCK	FLOW	GAS	5 mm Hg (0.1 in, Hg) after 60 sec. TEMPERATURE READINGS PUMP				
TIME	TIME	RATE	METER	PROBE	DRY GAS	TRAP	VAC.	
(min)	(24-hr)	(Lpm)	READING (L)	(°C) or °F)	METER Oor °F)	(℃) r°F)	(in. Hg)	
0	0900	1.0	9669.13	130	-4	3	5	
5	0905	1.0	9073.62	129	-4	ۍ پ	5	
10	09/6	1.0	907850	131	-3	3	5	
15	0915	1.0	9083.51	130	- 3	3	5	
20	0920	1.0	9088.29				_	
				-				
					-			
		<u> </u>						
0011177					-			
COMMENTS:								
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Laboratory Lot #:		· · · · · · · · · · · · · · · · · · ·	··········					



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VOST DATA SHEET								
PROJECT NO.				DATE 1/13/11				
CLIENT Norlite Corporation				OPERATOR R. Burns				
FACILITY	FACILITY Cohoes, NY				BAR. PRESSURE, in. Hg 36.05			
SOURCE	SOURCE Kiln#1				PROBE LENGTH (ft)			
SAMPLING LOCA	DESIRED PROBE TEMP. 130°C ± 5°C							
METER CALIBRA	METER CALIBRATION FACTOR (Y) 1.0577				PROBE PURGED ?			
DRY GAS METER	RNO. 101	14		DESIRED FLOW RATE (Lpm) 1.0				
RUN NO. R2	2B			DESIRED SAMPLE VOLUME (dsL) 20				
SORBENT TUBE NO	ors. 2017	7:16-	19AB-C		DGM PRESSURE, in. H ₂ O /. 8			
Train Leak Check	Train Leak Check INITIAL VACUUM (in. Hg):				Leak Rate: 6.0 in. Hg in 60 sec.			
Train Leak Check	Train Leak Check FINAL VACUUM (in. Hg): ACCEPTANCE CRITERIA: Leak Rate < 2.5 m				Leak Rate: 0,0 in. Hg in 60 sec.			
SAMPLING TIME (min)	CLOCK TIME (24-hr)	FLOW RATE (Lpm)	GAS METER READING (L)		ERATURE READRY GAS METER Or °F)	ADINGS TRAP	PUMP VAC. (in. Hg)	
0	0928	1.0	9089.11	131	-2	3	5	
	0933	1.0	9094.61	131	-2	3	5	
10	0938	1.0	9098.71	130	-2	4	5	
15	0943	1.0	9103.55	136	-1	4	3	
20	0948	1.0	9108.49					
	 	<u> </u>					· 	
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COMMENTS:								
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Laboratory Lot #:								

1			VOST DAT	A SHEE	T				
PROJECT NO. 60163411, Task 200				DATE 1/13/11					
CLIENT	ENT Norlite Corporation				OPERATOR R. Borns				
FACILITY	FACILITY Cohoes, NY				BAR. PRESSURE, in. Hg 30.05				
SOURCE Kiln#1				PROBE LENGTH (ft)					
SAMPLING LOCATION Exhaust Stack				DESIRED PROBE TEMP. 130°C ± 5°C					
METER CALIBRA	METER CALIBRATION FACTOR (Y) 1-0577				PROBE PURGED ?				
DRÝ GAS METER	DRY GAS METER NO. VOIY				DESIRED FLOW RATE (Lpm) 1.0				
RUN NO. R	RUN NO. PSC				DESIRED SAMPLE VOLUME (dsL) 20				
SORBENT TUBE NO)'S. 2017-1	61230	ABC	DGM PRESSU	JRE, in. H₂O				
Train Leak Check INITIAL VACUUM (in, Hg):				Leak Rate : 🗷 in. Hg in 60 sec.					
Train Leak Check FINAL VACUUM (in. Hg): ACCEPTANCE CRITERIA: Leak Rate < 2.5 n				Leak Rate: O.O in. Hg in 60 sec.					
SAMPLING	CLOCK	FLOW	GAS		RATURE REA	DINGS	PUMP		
TIME	TIME	RATE	METER	PROBE	DRY GAS	TRAP	VAC.		
(min)	(24-hr)	(Lpm)	READING (L)	(°G or °F)	METER (**C)*or °F)	(Cor°F)	(in. Hg)		
٥	1000	1.0	9110.27	130	-2	_3	7		
_5	1019	1.0	9115.31	130	- 2	3	7		
10	1024	1.0	9120.01	129	-2	3	6		
15	1629	1.0	9124.60	130	-2	3	6		
20	1034	1.0	9129.46						
		· · · · · · · · · · · · · · · · · · ·							
COMMENTS: First pair of "C" tubes could only draw 0.25 LAM									
Swapped out @ / min into our and discarded									
Laboratory Lot #:									

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DATE			:T					
CLIENT Norlite Corporation	PROJECT NO.	60163411, Tas	sk 200	·	DATE	1/13/11	- 1111	
SOURCE Kiln # 1	CLIENT	Norlite Corpor	ration		OPERATOR			
SAMPLING LOCATION	FACILITY	Cohoes, NY			BAR. PRESSURE, in. Hg 30.05			
METER CALIBRATION FACTOR (Y)	SOURCE	Kiln #1			PROBE LEI	NGTH (ft)	<i>3'</i>	
DRY GAS METER NO. VOI Y DESIRED FLOW RATE (Lpm) 1.0	SAMPLING LOCA	ATION	Exhaust St	tack	DESIRED P	ROBE TEMP.	130°C ± 5°0	<u> </u>
RUN NO. R2D SORBENT TUBE NO'S. 2017-16-22 ABC Train Leak Check - INITIAL VACUUM (in. Hg): 16 Leak Rate: 0.0 in. Hg in 60 sec. Train Leak Check - FINAL VACUUM (in. Hg): 5 Leak Rate: 0.0 in. Hg in 60 sec. ACCEPTANCE CRITERIA: Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec. SAMPLING CLOCK FLOW GAS TEMPERATURE READINGS PROBE DRY GAS TRAP VAC. (min) (24-hr) (Lpm) READING (L) (cor °F) (in. Hg) 6 1641 1.0 9129.80 131 -1 3 5 10 1051 1.0 9138.50 130 -1 3 5 10 1056 1.0 9149.22 131 0 4 5 COMMENTS:	METER CALIBRA	ATION FACTOR	(Y) /.c	<u> </u>	PROBE PU	RGED?	У	
SORBENT TUBE NO'S. 2017-16-22 PBC DGM PRESSURE, in. H ₂ O / 8 Train Leak Check – INITIAL VACUUM (in. Hg): /6 Leak Rate: O.O in. Hg in 60 sec. ACCEPTANCE CRITERIA: Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec. SAMPLING CLOCK FLOW GAS TEMPERATURE READINGS PROBE DRY GAS TRAP VAC. (min) (24-hr) (Lpm) (L) (Cor°F) (Cor°F) (For°F) (in. Hg) 6 /64/ / .O 9/29,80 /3/ -/ 3 5 / 04/6 / .O 9/34,63 /30 -/ 3 5 / 0 /05/ / .O 9/34,63 /30 -/ 3 5 / 0 /05/ / .O 9/34,63 /30 O Y 5 / 3 /05/6 / .O 9/44,22 /3/ B Y 5 COMMENTS:	DRY GAS METER	R NO.	VÓI	4	DESIRED F	LOW RATE (L _j	pm)	1.0
Train Leak Check - INITIAL VACUUM (in. Hg): JG Leak Rate: O . O in. Hg in 60 sec. Train Leak Check - FINAL VACUUM (in. Hg): S Leak Rate: O . O in. Hg in 60 sec. ACCEPTANCE CRITERIA: Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec.	RUN NO.	RZD_			DESIRED S	AMPLE VOLUI	ME (dsL)	20
Train Leak Check - FINAL VACUUM (in. Hg):	SORBENT TUBE NO	o's. 2017-/	6-221	980	DGM PRESSU	JRE, in. H₂O	1.8	
SAMPLING TIME TIME TIME RATE METER PROBE DRY GAS TRAP VAC.	Train Leak Check	INITIAL VACUUM	(in. Hg):	Leak Rate :	0.0	in. Hg in 60 se	ec.	
SAMPLING TIME FLOW RATE METER READING PROBE DRY GAS TRAP VAC.	Train Leak Check -		DIA · Leak Rate < 25r			în. Hg in 60 se	∋C.	
(min) (24-hr) (Lpm) (L) (Cor°F) (Cor°F) (For°F) (in. Hg) 6		CLOCK	FLOW	GAS METER	TEMPE	RATURE REA	····	
5	(min)	(24-hr)	(Lpm)		(Cor °F)	© or °F)	€ or °F)	(in. Hg)
10 1051 1.0 9138.50 130 0 4 5 15 1056 1.0 9144.22 131 0 4 5 20 1101 1.0 9149.00 COMMENTS:	6	1641	1.0	9129.80	131	-/	3	5
15 1056 1.0 9144.22 131 0 4 5 20 1101 1.0 9149.00 COMMENTS:	5	1046	1.0	9134.63	130	-/	3	5
20 1101 1.0 9/49.00	10	1051	1.0	9138.50	130	0	4	_5_
COMMENTS:	15	1056	1.0	9144.22	131	0	4	5
	20	1101	1.0	9149.00				
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Laboratory Lot #:	COMMENTS:			<u> </u>				
Laboratory Lot #:				<u></u>	<u> </u>		<u></u>	
Laboratory Lot #:	·	_	-	*				··· <u>·</u>
	Laboratory Lot #:			·	·			

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	F1		VOST DAT	A SHEE	T			
PROJECT NO.	60163411, Tas	k 200		DATE /	/13/11			
CLIENT	Norlite Corpor	ration		OPERATOR	R. B.	Jr05		
FACILITY	Cohoes, NY			BAR. PRES	SURE, in. Hg		ø	
SOURCE	Kiln #1			PROBE LEN	NGTH (ft)	3′_		
SAMPLING LOCA	ATION	Exhaust St	tack	DESIRED P	ROBE TEMP.	130°C ± 5°C	3	
METER CALIBRA	ATION FACTOR ((Y) 1.0	PROBE PU	RGED?	<u> </u>			
DRY GAS METER	R NO.	VO,	DESIRED F	LOW RATE (L)	pm)	1.0		
RUN NO.		R3A	DESIRED S	AMPLE VOLUI	ME (dsL)	20		
SORBENT TUBE NO	o's. 2017-16	-11 A.B	DGM PRESSU	JRE, in. H ₂ O	1.8			
Train Leak Check			Leak Rate :		in. Hg in 60 se	ec.		
Train Leak Check			State Both & 2 Ex	Leak Rate : in. Hg in 60 sec. mm Hg (0.1 in. Hg) after 60 sec.				
SAMPLING	CLOCK	FLOW	GAS		g) after 60 sec.	DINGS	PUMP	
TIME	TIME	RATE	METER	PROBE	DRY GAS	TRAP	VAC.	
(min)	(24-hr)	(Lpm)	READING (L)	(Cor °F)	METER	(©ar °F)	(in. Hg)	
0	1230	1.0	9149.42	130	0	4	5	
5	1235	1.0	9154.76	131	-2	4	5	
10	1240	1.0	9158.55	130	-2	4	5	
15	1245	1.0	9163.52	131	-2	4	_5_	
20	1250	1.0	9168.31					
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COMMENTS:								
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Laboratory Lot #:	<u> </u>							

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			VOST DAT	A SHEE	T		
PROJECT NO.	60163411, Ta	sk 200		DATE	1/13/11	/	
CLIENT	Norlite Corpo	ration		OPERATOR	R.	Burns	
FACILITY	Cohoes, NY			BAR. PRES	SURE, in. Hg		
SOURCE	Kiin #1			PROBE LE	NGTH (ft)	3'	
SAMPLING LOC	ATION	Exhaust S	DESIRED P	ROBE TEMP.	130°C ± 5°	<u>c</u>	
METER CALIBRA	ATION FACTOR	(Y) /. C	527	PROBE PU	RGED?	<u> </u>	
DRY GAS METE	R NO.	VO	sjef	DESIRED F	LOW RATE (L	pm)	1.0
RUN NO.		233		DESIRED S	AMPLE VOLU	ME (dsL)	20
SORBENT TUBE N	o's. <i>2017 - /</i>	6.09/	4.B.C	DGM PRESSU	JRE, in. H₂O	1. P	
Train Leak Check	INITIAL VACUUM	(in, Hg):	Leak Rate :	0.0	in. Hg in 60 se	ec.	
Train Leak Check			RIA: Leak Rate < 2.5 r	Leak Rate : in, Hg in 60 sec.			
SAMPLING	CLOCK	FLOW	GAS		RATURE REA	DINGS	PUMP
TIME	TIME	RATE	METER	PROBE	DRY GAS	TRAP	VAC.
(min)	(24-hr)	(Lpm)	READING (L)	d or °F)	METER ⊘or °F)	(CoroF)	(in. Hg)
0	1259	1.0	9168.65	1.30	-1	4	5
5	1304	1.0	9173.50	130	-/	4	5
10	1309	1.6	9178.31	131	-/	4	5
15	1314		9183.33	129	-/	4	5
20	1319	1.0	9/88.25				
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						·	/
				<u> </u>			
COMMENTS:			1.			<u></u>	
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Laboratory Lot #:	· · · · · · · · · · · · · · · · · · ·				···· <u>·</u>		 -
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			VOST DAT	A SHEE	Т					
PROJECT NO.	60163411, Tas	k 200		DATE	1/13/1	·/				
CLIENT	Norlite Corpo	ration		OPERATOR	2 R. B	Burgs				
FACILITY	Cohoes, NY			BAR. PRES	SURE, in. Hg	30-D				
SOURCE	Kiln #1		PROBE LE	NGTH (ft)	3'					
SAMPLING LOCA	ATION	Exhaust St	DESIRED P	ROBE TEMP.	130°C ± 5°C	<u>.</u>				
METER CALIBRA	ATION FACTOR	(Y) /.C	577	PROBE PU	RGED ?	4				
DRY GAS METER	R NO.	VÔ	14	DESIRED F	LOW RATE (L _i	pm)	1.0			
RUN NO.		23C	DESIRED S	AMPLE VOLU	ME (dsL)	20				
SORBENT TUBE NO	o's. 2017-1	6.8 A	1.B.C	DGM PRESSU		1. 8				
Train Leak Check			Leak Rate :	0.0	in. Hg in 60 se	ec.				
Train Leak Check -			RIA: Leak Rate < 2.5 r		0.0	in. Hg in 60 se	ec			
SAMPLING TIME	CLOCK	FLOW RATE	GAS METER READING		RATURE READRY GAS	DINGS TRAP	PUMP VAC.			
(min)	(24-hr)	(Lpm)	(L)	(Oor °F)	(⊗or °F)	(°C)or °F)	(in. Hg)			
<u></u>	1332	1.0	9188.68	130	-/	5	5			
<u></u>	1337		9193.50	131	-/	5	_5_			
16	1342	1.0	9198.28	130	-2	6				
15		1.0	9203.03	131	-2	6	5			
20	1352	1.0	9207.88							
							 -			
						-				
		<u>.</u>								
COMMENTS:				· · · · · · · · · · · · · · · · · · ·						
						<u></u>				
	. <u>.</u>	\\\.								
Laboratory Lot #:	Laboratory Lot #:									

A\(\in\)COM

1 (K 1701) 1 (J 1			VOST DAT	A SHEE	T		
PROJECT NO.	60163411, Tas	sk 200		DATE	1/13/1	/	
CLIENT	Norlite Corpo	ration		OPERATOR	R Bu	irns	
FACILITY	Cohoes, NY			BAR. PRES	SURE, in. Hg	30.0	
SOURCE	Kiln # 1	·	PROBE LEI	NGTH (ft)	3'		
SAMPLING LOC	ATION	Exhaust S	DESIRED P	ROBE TEMP.	130°C ± 5°C	;	
METER CALIBRA	ATION FACTOR	(Y) 1.a	577	PROBE PU	RGED?	/	
DRY GAS METER	R NO.	VOI	4	DESIRED F	LOW RATE (L	pm)	1.0
RUN NO.		R3D		, DESIRED S	AMPLE VOLU	ME (dsL)	20
SORBENT TUBE NO	o's. 2017 · 10	6.10A.	B.C	DGM PRESSU	JRE, in. H₂O	1.8	_
Train Leak Check				Leak Rate :		in. Hg in 60 se	ec.
Train Leak Check			Leak Rate : in, Hg in 60 sec. nm Hg (0.1 in, Hg) after 60 sec.				
SAMPLING TIME (min)	CLOCK TIME (24-hr)	FLOW RATE	GAS METER READING	TEMPE PROBE	RATURE REA DRY GAS METER	TRAP	PUMP VAC.
		(Lpm)	(L)	(O or °F)	€©or°F)	(Cor °F)	(in. Hg)
0	1426	1.0	9218.43	130	-/	4	6
5	1431	1.0	9223.22	130	~/	4	6
10	1436	1.6	9228.28	131	- 2	4	lo
15	1441	1.0	9233.62	129	-2	4	6_
20	1446	1.0	9238.92				
				-		·	
· · · · · · · · · · · · · · · · · · ·							<u> </u>
COMMENTS:	<u> </u>	<u> </u>	<u></u>				
							·
Laboratory Lot #:				· · ·	 -		
							

AECOM Environment

AECOM CEM Data (January 2011 Test)



PLANT:

CEMS

Norlite Corp. - Cohoes, NY

3A

PRE-LEAK CHECK:

ORSAT ANALYSIS (EPA METHOD 3)

DATE :	01/12/11			POST-LEAK CHECK :							
LOCATION:	Kiln 1 Exha	ust Stack		NOTE:							
SAMPLE TYPE	:	Tedlar Bag		Valid Leak Ched	ck : Liquid level	must not fall					
OPERATOR:	R. Si	card		below bottom of	capillary tubin	g in 4 minutes					
				and meniscus m	_	by more than					
	EXECUTE OF	la disebe statific		0.2 mL in 4 min	utes.			1			
		<u>N</u>	OTES / DAT	A CRITERIA							
CO ₂ :	When grea	ter than 4%	, difference b	etween reading	s shall be 0	.3% or less.		1			
	When less	than 4%, di	fference betv	veen readings s	hall be 0.2%	or less.					
O ₂ :	When grea	ter than or e	equal to 15%	, difference betv	ween reading	gs shall be 0.	.2% or less.				
When less than 15%, difference between readings shall be 0.3% or less.											
Test Condition	CIR	(1									
Run: 1	Reading A Rea			ading B	Read	ding C	Avg.	1			
GAS	Actual	Net	Actual	Net	Actual	Net	Net				
							Volume				
CO ₂						02	1500	9/			
						2/	70.00]/0			
			i				15.00	0/			
O ₂ *						Coa	4.76	10			
	<u> </u>					0		<u>]</u>			
Run: 2	Read	ling A	Rea	ading B	Reading C Avg.						
GAS	Actual	Net	Actual	Net	Actual	Net	Net				
27.15	,			, , , ,			Volume				
								1			
CO ₂						6	1110	1.7			
_						COa	7.67	1%			
	 		 				15.02	1/			
O ₂ *						19	1000	0/2			
- 2						02	10.02	10			
Run: 3	Peac	ling A	Per	ading B	Read	ding C	Avg.	1			
GAS	Actual	Net	Actual	Net	Actual	Net	Net				
GAS	Actual	INCL	Actual	l .	Actual	· Net	Volume				
	 		<u> </u>					1 ,			
CO2			/			(0)	430	9 43			
	<u> </u>			CEM /		COZ	/- 🐙 😼]/3 /**			
				CEM data)			4.38 14.56				
O ₂ *			_	4919		02	14.346	1 6			
						_ ~	. ~	11050			

Net O_2 is actual O_2 minus actual CO_2 reading.

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AECOM Enviormental CORRECTED CEM MONITORING RESULTS INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A CLIENT: / SITE: Norlite Corp. PROJECT NO .: Run #3-CIRT SOURCE: FILE NAME: Kiln#1 CONDITION: 100% feed Rate DATE: 01/12/2011 RUN NUMBER: RUN TIME: 09:03 to 12:04 Fd: (dscf/MMBtu) = 8,710 CO2 % 17.99 Full Scale 20.54 Cyl. Gas Concentrations Zero/Span 0.00 10.97 0.00 9.04 0.00 Direct Calibration Zero Response 0.01 Direct Calibration Span Response 11.02 9.14 Initial System Zero Response 0.02 0.01 Initial System Span Response 11.08 9.15 Final System Zero Response 0.03 0.02 Final System Span Response Initial/Final System Bias, Zero (%) 9.14 11.11 0.05 0.10 0.06 0.11 Initial/Final System Bias, Span (%) 0.29 0.44 0.06 0.00 System Drift, Zero/Span (%) 0.15 0.06 -0.06 0.05 Run Average 14.72 4,44 4.38 Corrected Run Averages 14.56 **Emission Calculations:** COMMENTS:

AECOM Enviormental UNCORRECTED CEM MONITORING RESULTS INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A CLIENT: / SITE: Norlite Corp. CONDITION: 100% feed Rate SOURCE: Kiln#1 RUN NUMBER: 3 02 CO₂ Date Time % ppm 12-Jan-2011 09:03 4.44 14.77 12-Jan-2011 09:04 14.65 4.43 12-Jan-2011 09:05 14.49 4.59 12-Jan-2011 09:06 14.68 4.52 12-Jan-2011 09:07 14.79 4.39 12-Jan-2011 09:08 14.81 4.35 09:09 4.32 12-Jan-2011 14.83 12-Jan-2011 09:10 14.71 4.40 12-Jan-2011 09:11 14.81 4.42 12-Jan-2011 09:12 14.77 4,35 09:13 14.76 4,41 12-Jan-2011 09:14 14 76 12-Jan-2011 4 39 12-Jan-2011 09:15 14.75 4.44 12-Jan-2011 09:16 14.71 4.44 12-Jan-2011 09:17 14.87 4.40 09:18 4.34 12-Jan-2011 14.81 12-Jan-2011 09:19 14 81 4 35 12-Jan-2011 09:20 14.72 4,41 12-Jan-2011 09:21 14,69 4.46 12-Jan-2011 09:22 14.36 4.59 4.65 12-Jan-2011 09:23 14,59 12-Jan-2011 09:24 14.72 4.40 12-Jan-2011 09:25 14.56 4.50 12-Jan-2011 09:26 14.53 4.57 12-Jan-2011 09:27 14.52 4.55 12-Jan-2011 09:28 14.54 4.58 12-Jan-2011 09:29 14.62 4.50 12-Jan-2011 09:30 4.53 14.57 12-Jan-2011 09:31 14.59 4.56 12-Jan-2011 09:32 14.63 4.52 09:33 12-Jan-2011 14.58 4.51 12-Jan-2011 09:34 14.74 4.54 12-Jan-2011 09:35 14.73 4.45 09:36 4.47 12-Jan-2011 14.67 12-Jan-2011 09:37 14.67 4.46 12-Jan-2011 09:38 14.68 4.49 12-Jan-2011 09:39 14.58 4.49 12-Jan-2011 09:40 14.62 4.55 12-Jan-2011 09:41 14.70 4.47 12-Jan-2011 09:42 14.64 4.45 09:43 14.66 4.47 12-Jan-2011 12-Jan-2011 09:44 14.56 4.52 12-Jan-2011 14.43 09:45 4.63 12-Jan-2011 09:46 14.32 4.75 12-Jan-2011 09:47 14.66 4.63 12-Jan-2011 09:48 15.18 4.14 09:49 14.65 12-Jan-2011 4.38 09:50 12-Jan-2011 14.59 4.52 12-Jan-2011 09:51 14.69 4.50 09:52 12-Jan-2011 14.83 4.37 12-Jan-2011 09:53 14.80 4.36 12-Jan-2011 09:54 14.82 4.34 12-Jan-2011 09:55 14.60 4.47 12-Jan-2011 09:56 14.64 4.51 09:57 4.53 12-Jan-2011 14.56 12-Jan-2011 09:58 14.74 4.48 12-Jan-2011 09:59 14.79 4.38 12-Jan-2011 10:00 14.72 4.42 10:01 12-Jan-2011 14.75 4.44 12-Jan-2011 10:02 14.82 4.41 12-Jan-2011 10:03 14.77 4.41 12-Jan-2011 10:04 14.87 4.34 12-Jan-2011 10:05 14.81 4.36 12-Jan-2011

		INSTR		AECOM Enviormental RECTED CEM MONITORING RESULTS REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A
CLIENT: / SITI SOURCE:		orlite Corp. iln # 1		CONDITION: 100% feed Rate RUN NUMBER: 3
Date	Time	O2	CO2	
		%	ppm	•
12-Јап-2011 12-Јап-2011	10:07 10:08	14.85 14.67	4.28 4.39	
12-Јап-2011	10:09	14.81	4.41	
12-Jan-2011 12-Jan-2011	10:10 10:11	14.75 14.72	4.42 4.44	
12-Jan-2011	10:12	14.56	4.52	,
12-Jan-2011	10:13	14.52	4.58	
12-Jan-2011 12-Jan-2011	10:14 10:15	14.56 14.59	4.53 4.56	
12-Jan-2011	10:16	14.64	4.50	
12-Jan-2011	10:17	14.85	4.43.	
12-Jan-2011 12-Jan-2011	10:18 10:19	14.94 14.83	4.29 4.34	
12-Jan-2011	10:20	14.82	4.40	
12-Jan-2011	10:21	14.87	4.34	
12-Jan-2011 12-Jan-2011	10:22 10:23	14.85 14.82	4.35 4.38	
12-Jan-2011	10:24	14.89	4.32	
12-Jan-2011	10:25	14,95 .	4.31	•
12-Jan-2011 12-Jan-2011	10;26 10;27	15.00 14.58	4.22 4.28	
12-Jan-2011	10:28	14.57	4.48	
12-Jan-2011	10:29	14.58	4.55	·
12-Jan-2011 12-Jan-2011	10:30 10:31	14.50 14.53	4.62 4.63	•
12-Jan-2011	10:32	14.75	4.51	
12-Jan-2011	10:33	14.69	4.41	
12-Jan-2011 12-Jan-2011	10:34 10:35	14.54 14.43	4.54 4.64	
12-Jan-2011	10:36	14.54	4.61	
12-Jan-2011	10:37	14.45	4.66	
12-Jan-2011 12-Jan-2011	10:38 10:39	14.53 14.47	4.59 4.61	
12-Jan-2011	10:40	14.37	4.70	
12-Jan-2011	10:41	14.34	4.76	
12-Jan-2011 12-Jan-2011	10:42 10:43	14.53 14.61	4.64 4.53	
12-Jan-2011	10:44	14.59	4.50	
12-Jan-2011	10:45	14.47	4.65	
12-Jan-2011 12-Jan-2011	10:46 10:47	14.46 14.54	4.69 4.66	
12-Jan-2011	10:48	13.99	4.86	•
12-Jan-2011	10:49	13,66	5.23	
12-Jan-2011 12-Jan-2011	10:50 10:51	14.31 14.66	4.95 4.61	
12-Jan-2011	10:52	14.76	4.46	
12-Jan-2011	10:53	14.78	4.24	
12-Jan-2011 12-Jan-2011	10:54 10:55	14.82 14.76	4.35 4.43	
12-Jan-2011	10:56	14.76	4.43	
12-Jan-2011	10:57	14.93	4.26	
12-Jan-2011 12-Jan-2011	10:58 10:59	15.10 15.15	4.16 4.08	
12-Jan-2011	11:00	15.04	4.15	
12-Jan-2011	11:01	15.07	4.15	
12-Jan-2011 12-Jan-2011	11:02 11:03	15.17 15.13	4.13 4.02 ·	
12-Jan-2011	11:04	14.78	4.18	
12-Jan-2011	11:05	14.69	4.36	
12-Jan-2011 12-Jan-2011	11:06 11:07	14.65 14.72	4.49 4.46	•
12-Jan-2011	11:08	14.68	. 4.48	
12-Jan-2011	11:09	14.98	4.34	
12-Jan-2011	11:10	14.94	4.25	

			UNCORRE	AECOM Enviormental CTED CEM MONITORING RESULTS
CLIENT: / SITE:	N	INSTR orlite Corp		REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A CONDITION: 100% feed Rate
SOURCE:		iln#1	•	RUN NUMBER: 3
Date	Time	O2	CO2	
		%	ppm	
			•-•	
12-Jan-2011	11:11	15.00	4.22	
12-Jan-2011	11:12	14.96	4.23	
12-Jan-2011 12-Jan-2011	11:13 11:14	14.47	4.50 4.50	
12-Jan-2011	11:14	14.81 14.78	4.39	
12-Jan-2011	11:16	14.75	4.45	·
12-Jan-2011	11:17	14.71	4.48	
12-Jan-2011	11:18	14.78	4.41	
12-Jan-2011	11:19	14.76	4.41	
12-Jan-2011	11:20	14.70	. 4.45	
12-Jan-2011	11:21	14.69	4.47	
12-Jan-2011 12-Jan-2011	11:22 11:23	14.61 14.74	4.49 4.44	
12-Jan-2011	11:24	14.74	4.44	
12-Jan-2011	11:25	14.69	4.46	
12-Jan-2011	11:26	14.63	4.49	
12-Jan-2011	11:27	14.55	4.59	
12-Jan-2011	11:28	14.62	4.54	
12-Jan-2011	11:29	14.62	4.50	
12-Jan-2011	11:30	14.62	4.53	
12-Jan-2011	11:31	14.72	4.52	
12-Jan-2011 12-Jan-2011	11:32 11:33	14.89 14.62	4.37 4.42	
12-Jan-2011	11:34	14.78	4.41	
12-Jan-2011	11:35	14.58	4,49	
12-Jan-2011	11:36	14.86	4.46	
12-Jan-2011	11:37	14.80	4.37	
12-Jan-2011	11:38	14.81	4.37	
12-Jan-2011	11:39	14.94	4.28	
12-Jan-2011 12-Jan-2011	11:40 11:41	14.93	4.25 4.23	•
12-Jan-2011	11:42	14.97 14.94	4.26	
12-Jan-2011	11:43	15.01	4.23	•
12-Jan-2011	11:44	14.91	4.20	
12-Jan-2011	11:45	14.81	4.35	
12-Jan-2011	11:46	14.88	4.34	•
12-Jan-2011	11:47	14.96	4.29	•
12-Jan-2011	11:48	14.85	4.33	
12-Jan-2011 12-Jan-2011	11:49 11:50	14.81 14.73	4.37 4.43	
12-Jan-2011 12-Jan-2011	11:50	14.73	4.43 4.36	
12-Jan-2011	11:52	14.77	4.38	
12-Jan-2011	11:53	14.77	4.40 ,	
12-Jan-2011	11:54	14.85	4.34	
12-Jan-2011	11:55	14.84	4.35	
12-Jan-2011	11:56	14.86	4.35	
12-Jan-2011	11:57	14.77	4.38	
12-Jan-2011 12-Jan-2011	11:58	14.78	4.43	·
12-Jan-2011 12-Jan-2011	11:59 12:00	14.89 14.48	4.36 4.47	
12-Jan-2011	12:01	14.46	4.47 4.68	
12-Jan-2011	12:02	14.76	4.42	·
12-Jan-2011	12:03	15.00	4.32	
12-Jan-2011	12:04	14.94	4.22	
AVERAGES:		14.72	4.44	

AECOM

Day.	Wednesday		
Date:	01/12/11		Performed By: Robert Sicard
Location:	Cohoes, NY.	<u></u>	Project No.: 60/634/1.200
Client:	Norlite Corp.		

Run #	Run Time		Type of Calibration		
	07:35		Direct:	System: THC	
		· -	Initial:	Final:	

	◀	- Direct	Cal		> STart of Day -			
Instrument	1					3	.	4
	Conc.	Response	Conc.	Response	Conc.	Response	Conc.	Response
02	0.00	0.01	20.54	20.60	10.97	11.02		
CO2	0.00	0.00	17.99	18.10	9.04	9.14		
THC	0.00	0.02	85,40	85.46	45.50	45.68	25.10	25.32

Instrument	O2	CO2	THC			
:Scale	0-25%	0-20%	0-100 ppm			<u>:</u>

CEM #2 C:\WBW\DATA\MASTERS\[calsheetdir.xls]A

AECOM

Client:	Norlite Corp.		·
Location:	Cohoes, NY.		Project No.: 60/634/1.200
Date:	01/12/11		Performed By: Robert Sicard
Day:	Wednesday	Kiln # 1	

Run #	Run Time		Type of	Calibration
	09:03 4012:04	No.	Direct:	System:
	No the data		Initial:	Final:
		Run's Dio	xar Inter	RUJHT VOST

t	4	- IniTia	1 Rus#1	-	4	FinalA	205#1	>
Instrument						3		4
	Conc.	Response	Conc.	Response	Conc.	Response	Conc.	Response
02	0.00	0.02	10.97	11.08	0.00	0.03	10.97	11.10
CO2	0.00	0.01	9.04	9.15	0.00	0.02	9.04	9.14
THC	0.00	0.0(45.50	45.60	0.00	0.10	45.50	45.54

	•								
	Concern and the Armet Conference of the Arter of the Conference of the Arter of the Armet of the	market state to be a factor and constructed from 1 \$40 and construct 1 \$400 builded.	Desperation of the property of	The Court of the relation of the training of the term of the second of t	la esta desperia de la contenta de la companidad de la companidad de la companidad de la companidad de la comp	per per esta de la compacta del la compacta del la compacta del la compacta de la compacta de la compacta de la compacta de la compacta de la compacta de la compacta de la compacta de la compacta de la compacta de la compacta de la	i derivat der talle Constalle Constalle der Könerer i Lewis der betriebt die kalle Ber Constalle der Beiter ber		
- 1		Territoria de la compansión de la compan		HIBELDER GERRETTEN DER DER HER SEIN	LEKSEBOTENNE KWETOKERPINER PROKEN		REBERTASKURSANUDBALUNGERBARING		an sen en
4		α	$\alpha \alpha \alpha$		HTM (1986) 1986 - A PARTE A TANKA A PARTE A PARTE A PARTE A PARTE A PARTE A PARTE A PARTE A PARTE A PARTE A PA				
	Instrument	Part Charles and the company of the company of the		ila kitiki tutik kirita ka re ili ki reka kitiki kiriki kiriki k			all for the letter fact the limit of the matter than the limit of the		
- 1		Renterior de la Company de la			PROMOGRANGIA KILOKORIONA AKAMAMAN	Parket value en	DELIMENTE ENERGE DE MESERCALE DE LA CONTRACTOR DE LA CONT	r mera big grand all a la proposition de la company de la	LESENSALINGENESEMBENGERENCORPHIC
- 1		NOT BE IN BUILDING TO BE WAS A SHOP OF THE PARTY OF THE P		Costa Costa de La comercia de la Costa Costa Costa Costa Costa Costa Costa Costa Costa Costa Costa Costa Costa		LECTATES SETA CONTROL CONTROL CONTROL CONTROL	ESPECIAL CONTRACTOR OF THE PROPERTY OF THE PRO	[4]中的国际中国中国中国中国的国际企业的发展的发展。	
- 1	·考別的計算等的情報報報報報報報報的可能的公司符件。	099988949899999999999999988		is policinal tree in cities ablases, all discription of control to be broaded.	rational tricks where exists the contract of the first of the	is writing to a systematic of period approach.	Seed to the and a control of the control of the properties of	Silver trade construction and appropriate the property of the	A decide about the contract of
- 1									I II
	. 他的主题是国际已经经历的印象的自己的自己的自己的自己的自己。								I II
- 1				^ - ^ ^					I II
	GREEK TO SAN OLUMEN BEDEKKEN AND AND A	0.350/	1 0 200/ 1	0.100 ~~~				l •	I II
	Scale	0-25%	0-20%	0-100 ppm					1. !!
		V 22 / U	V = V V V	O TOO DATE		'			1 13
	Sincipation in the contribution of the first section in the contribution in the contri			* *					1

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PLANT:

Norlite Corp. - Cohoes, NY

CEMS 3A-ORSAT ANALYSIS (EPA METHOD 2)

PRE-LEAK CHECK:

DATE :				POST-LEAP	CHECK:						
LOCATION:	Kiln 1 Exha	ust Stack	-	NOTE:							
SAMPLE TYPE			Methed 3A	Valid Leak Check : Liquid level must not fall							
OPERATOR:		icard		below bottom o	below bottom of capillary tubing in 4 minutes						
$o_2 - s$	Servono	x Mode	11400	and meniscus r 0.2 mL in 4 mir	-	e by more than					
		<u>N</u>	OTES / DAT	A CRITERIA		* 1					
CO ₂ : When greater than 4%, difference between readings shall be 0.3% or less. When less than 4%, difference between readings shall be 0.2% or less.											
O ₂ : When greater than or equal to 15%, difference between readings shall be 0.2% or less. When less than 15%, difference between readings shall be 0.3% or less.											
Test Condition:											
Run:	Read	ling A	Rea	ading B	Read	ding C	Avg.				
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume				
CO ₂	/3:33- Tim				Rust	COJ	3.87				
O ₂ *						62	15.57				
Run: 2	Read	ling A	Rea	ading B	Read	ding C	Avg.				
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume				
<i>©8</i> :33. CO₂	-1/:35 / 2:0 0-	•			Run#2	(02	3.93				
	Time				1000		16/3				
. O ₂ *						02	16.13				
Run: 3	Read	ling A	Rea	ading B	Read	ding C	Avg.				
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume				
CO ₂	12:00-	15:30				(0)	3.98				
O ₂ *	time					02	3.9 8 16.09				

Net O_2 is actual O_2 minus actual CO_2 reading.

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AECOM Enviormental

CORRECTED CEM MONITORING RESULTS INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE: SOURCE: CONDITION:

RUN NUMBER:

Norlite Corp. Kiln # 1 Condition 1 Run #1 (CIA)

PROJECT NO .:

FILE NAME:

Run #1-CIA 01/12/2011

DATE: RUN TIME:

13:33 to 16:35

	02 %	ı	CO2 %			ppm	
Full Scale Cyl. Gas Concentrations Zero/Span Direct Calibration Zero Response Direct Calibration Span Response Initial System Zero Response Initial System Span Response Final System Span Response Final System Span Response Initial/Final System Bias, Zero (%) Initial/Final System Bias, Span (%) System Drift, Zero/Span (%)	20.54 0.00 0.05 0.29 0.10	10.97 0.01 11.02 0.02 11.08 0.04 11.14 0.15 0.58 0.29	0.06 0.06 0.17	9.04 0.00 9.14 0.01 9.15 0.04 9.12 0.22 -0.11 -0.17	-0.01 -0.09 -0.06	45.50 0.02 45.68 0.01 45.60 -0.04 44.59 -0.07 -1.28 -1.18	
Run Average Corrected Run Averages	15.76 15.57		3.93 3.87		1.68 1.71		
Emission Calculations:	·						
COMMENTS:							

			LWC-CDB1		W Enviormental MONITORING RESULTS
		124242424242424242424	UMENTAL		E METHODS - 3A, 6C, 7E, 10 & 25A
CLIENT: / SI SOURCE:		orlite Corp iln #1	•		CONDITION: Condition 1 Run #1 (CIA) RUN NUMBER: 1
Date	Time	O2 %	CO2 ppm	THC ppm	
10 1 0011	10.00				
12-Jan-2011 12-Jan-2011	13:33 13:34	15.88 15.93	3.65 3.83	1.86 1.82	
12-Jan-2011	13:35	15.92	3.83	1.84	
12-Jan-2011 12-Jan-2011	~ 13:36 13:37	15.69 15.53	3.81 3.98	1.80 1.82	
12-Jan-2011	13:38	15.52	4.10	1.83	
12-Jan-2011 12-Jan-2011	13:39 13:40	15.50 15.54	4.11 4.10	1.85 1.81	
12-Jan-2011	13:41	15.63	4.00	1.83	
12-Jan-2011 12-Jan-2011	13:42 13:43	15.61 15.77	4.08 3.95	1.89 1.86	
12-Jan-2011	13:44	15.77	3.96	1.85	·
12-Jan-2011	13:45	15.59	4.05	1.83	
12-Jan-2011 12-Jan-2011	13:46 13:47	15.71 15.66	3.98 4.01	1.81 1.84	
12-Jan-2011	13:48	15.86	3.92	1.83	•
12-Jan-2011 12-Jan-2011	13:49 13:50	15.73 15.71	3.91 3.97	1.83 1.85	
12-Jan-2011	13:51	15.80	3.92	1.81	
12-Jan-2011	13:52	15.74	3.92	1.82	
12-Jan-2011 12-Jan-2011	13:53 13:54	15.76 15.73	3.96 3.95	1.84 1.77	
12-Jan-2011	13:55	15.69	3.98	1.81	
12-Jan-2011 12-Jan-2011	13:56 13:57	15.74 15.75	3.95 3.94	1.79 1.80	
12-Jan-2011	13:58	15.72	3.97	1.79	
12-Jan-2011 12-Jan-2011	13:59 14:00	15.65 15.70	3.98 3.99	1.77 1.79	·
12-Jan-2011 12-Jan-2011	14:01	15.76	3.94	1.79	
12-Jan-2011	14:02	15.80	3.82	1.76	
12-Jan-2011 12-Jan-2011	14:03 14:04	15.95 15.72	3.84 3.84	1.77 1.78	
12-Jan-2011	14:05	15.76	3.93	1.76	
12-Jan-2011 12-Jan-2011	14:06 14:07	15.84 15.86	3.86 3.86	1.74 1.75	
12-Jan-2011	14:08	15.95	3.79	1.74	
12-Jan-2011	14:09	15.85	3.82 3.91	1.76	
12-Jan-2011 12-Jan-2011	14:10 14:11	15.78 15.87	3.84 -	1.73 1.73	
12-Jan-2011	14:12	15.84	3.89	1,75	
12-Jan-2011 12-Jan-2011	14:13 14:14	15.89 15.76	3.84 3.90	1.72 1.75	
12-Jan-2011	14:15	15.74	3.96	1.73	
12-Jan-2011 12-Jan-2011	14:16 14:17	15.78 15.75	3.89 3.96	1.73 1.73	
12-Jan-2011 12-Jan-2011	14:17	15.75	3.89	1.73	
12-Jan-2011	14:19	15.88	3.80	1.69	
12-Jan-2011 12-Jan-2011	14:20 14:21	15.78 15.90	3.94 3.90	1.69 1.69	
12-Jan-2011	14:22	15.60	3.91	1.68	
12-Jan-2011 12-Jan-2011	14:23 14:24	15.62 15.61	4.08 4.05	1.65 1.67	·
12-Jan-2011	14:25	15.97	3.94	1.68	
12-Jan-2011 12-Jan-2011	14:26 14:27	16.06 15.05	3.76 3.77	1.66 1.68	
12-Jan-2011 12-Jan-2011	14:27 14:28	15.95 15,96	3.77 3.76	1.68	
12-Jan-2011	14:29	15.78	3.76	1.68	
12-Jan-2011 12-Jan-2011	14:30 14:31	15.57 15.66	3.93 4.00	1.68 1.66	
12-Jan-2011	14:32	15.57	4.03	1.68	
12-Jan-2011 12-Jan-2011	14:33 14:34	15.86 15.81	3.98 3.88	1.65 1.67	
12-Jan-2011	14:35	15.76	3.91	1.67	
12-Jan-2011	14:36	15.84	3.88	1.66	

		INICTE	UNCORR	ECTED CE	M Enviormental M MONITORING RESULTS DE METHODS - 3A, 6C, 7E, 10 & 26A
CLIENT: / SITE: SOURCE:		orlite Corp iln # 1	(4)41454(4)4(4)4(4)4(4)		CONDITION: Condition 1 Run #1 (CIA) RUN NUMBER: 1
Date	Time	O2 %	CO2 ppm	THC ppm	·
12-Jan-2011	14:37	15.85	3.89	1.67	
12-Jan-2011 12-Jan-2011	14:38 14:39	15.85 15.82	3.88 3.92	1.69 1.70	
12-Jan-2011	14:40	15.90	3.85	1.67	
12-Jan-2011	14:41	15.88	3.82	1.70	
12-Jan-2011 12-Jan-2011	14:42 14:43	15.90 15.91	3.83 3.79	1.68 1.69	
12-Jan-2011	14:44	15.93	3.81	1.72	
12-Jan-2011	14:45	15,98	3.75	1.69	
12-Jan-2011	14:46	15,98	3.72	1.71	
12-Jan-2011 12-Jan-2011	14:47 14:48	16.07 16.20	3,72 3,60	1.69 1.68	
12-Jan-2011	14:49	15.85	3.72	1.70	
12-Jan-2011	14:50	15.87	3,84	1.68	
12-Jan-2011	14:51	15.88	3,82	1.72	
12-Jan-2011 12-Jan-2011	14:52 14:53	15.80 15.88	3.90 3,86	1.68 1.69	
12-Jan-2011	14:54	15.74	3,93	1.71	
12-Jan-2011	14:55	15.75	3.97	1.66	
12-Jan-2011	14:56	15.77	3,89	1.73	
12-Jan-2011 12-Jan-2011	14:57 14:58	15.62 15.74	4.01 3.99	1.73 1.70	
12-Jan-2011	14:59	15,65	3.99	1.69	
12-Jan-2011	15:00	15.61	4.04	1.68	
12-Jan-2011	15:01	15.75	3.97	1.70	
12-Jan-2011 12-Jan-2011	15:02 15:03	15.71 15.76	4.00 3.96	1.67 1.69	
12-Jan-2011	15:04	15.51	4.10	1.67	
12-Jan-2011	15:05	15.57	4.10	1.68	
12-Jan-2011	15:06	15.74	3.99	1.70	
12-Jan-2011 12-Jan-2011	15:07 15:08	15.70 15.69	3.98 3.99	1.70 1.70	
12-Jan-2011	15:09	15.70	3.99	1.67	
12-Jan-2011	15:10	15.66	3.99	1.70	
12-Jan-2011 12-Jan-2011	15:11 15:12	15.73 15.76	3.97 3.97	1.69 1.66	
12-Jan-2011	15:12	15.75	3.95	1.71	
12-Jan-2011	15:14	15.75	3.96	1.68	
12-Jan-2011	15:15	15.81	3.91	1.70	
12-Jan-2011 12-Jan-2011	15:16 15:17,	15.87 15.86	3.88 3.87	1.70 · 1.67	
12-Jan-2011	15:17.	15.84	3.89	1.68	
12-Jan-2011	15:19	15.87	3.86	1.65	
12-Jan-2011	15:20	15.87	3.87	1.66	
12-Jan-2011 12-Jan-2011	15:21 15:22	15.88 15.88	3.81 3.85	1.66 1.66	
12-Jan-2011	15:22	15.88	3.78	1.71	
12-Jan-2011	15:24	16.03	3.76	1.69	
12-Jan-2011	15:25	16.02	3.69	1.68	
12-Jan-2011 12-Jan-2011	15:26 15:27	16.21 16.20	3.70 3.56	1.69 1.68	
12-Jan-2011	15:28	15.66	3.94	1.68	
12-Jan-2011	15:29	15.69	3.97	1.69	
12-Jan-2011	15:30	15.58	4.04	1.72	
12-Jan-2011 12-Jan-2011	15:31 15:32	15.65 15.60	4.03 4.03	1.71 1.74	
12-Jan-2011	15:33	15.63	4.05	1.74	
12-Jan-2011	15:34	15.64	4.00	1.72	
12-Jan-2011	15:35	15.71	4.01	1.75	
12-Jan-2011 12-Jan-2011	15:36 15:37	15.69 15.65	3.98 4.01	1.72 1.75	
12-Jan-2011	15:38	15.69	4.00	1.75	
12-Jan-2011	15:39	15.72	3.99	1.74	
12-Jan-2011	15:40	15.59	4.02	1,76	

RESIDENCE SERVICES			omano manda da	AEOON	
			UNCORR		Enviormental MONITORING RESULTS
		INSTR			E METHODS - 3A, 6C, 7E, 10 & 25A
CLIENT: / SITE	::::::::::::::::::::::::::::::::::::::	lorlite Corp	(4)	1717011411414141414141	CONDITION: Condition 1 Run #1 (CIA)
SOURCE:		iin#1	•		RUN NUMBER: 1
Date	Time	O2	CO2	THC	
Date		%	ppm	ppm	
		70	рып	ppiii	
12-Jan-2011	15:41	15.74	4.02	1.73	·
12-Jan-2011	15:42	15.87	3.88	1.77	
12-Jan-2011	15:43	15.81	3.91	1.77	
12-Jan-2011	15:51	15.61	4.01	1.69	
12-Jan-2011	15:52	15.61	4.00	1.64	
12-Jan-2011 12-Jan-2011	15:53	15.73	3.98	1.63	
12-Jan-2011	15:54 15:55	15.69 15.51	3.97 4.07	1.63 1.56	
12-Jan-2011	15:56	15.67	4.07	1.58	
12-Jan-2011	15:57	15.62	4.01	1.56	
12-Jan-2011	15:58	15.66	4.05	1.57	
12-Jan-2011	15:59	15.67	4.01	1.57	
12-Jan-2011	16:00	15.55	4.09	1.57	
12-Jan-2011	16:01	15.67	4.05	1.58	
12-Jan-2011	16:02	15.66	4.01	1.56	
12-Jan-2011	16:03	15.68	4.03	1.56	
12-Jan-2011	16:04	15.85	3.92	1.54	·
12-Jan-2011 12-Jan-2011	16:05 16:06	15.64	3.99	1.57 1.57	
12-Jan-2011	16:08	15.80 15.83	3.97 3.91	1.57	
12-Jan-2011	16:08	15.80	3.94	1.58	
12-Jan-2011	16:09	15.87	3.91	1.55	
12-Jan-2011	16:10	15.80	3.92	1.55	•
12-Jan-2011	16:11	15.82	3.93	1.55	
12-Jan-2011	16:12	15.85	3.89	1.56	
12-Jan-2011	16:13	15.72	3.96	1.54	
12-Jan-2011	16:14	15.85	3.91	1.51	
12-Jan-2011	16:15	15.69	3.97	1.53	
12-Jan-2011	16:16	15.81	3.96	1.52	•
12-Jan-2011 12-Jan-2011	16:17 16:18	15.75 15.73	3.93 4.00	1,52 1,52	
12-Jan-2011	16:19	15.73	3.95	1,52	
12-Jan-2011	16:19	15.55	4.06	1.53	
12-Jan-2011	16:21	15.61	4.11	1.53	
12-Jan-2011	16:22	15.70	4.01	1.56	
12-Jan-2011	16:23	15.61	4.05	1.56	
12-Jan-2011	16:24	15.70	4.03	1.51	
12-Jan-2011	16:25	15.51	4.09	1.55	
12-Jan-2011	16:26	15.56	4.16	1.52	
12-Jan-2011	16:27	15.66	4.06	1.53	
12-Jan-2011 12-Jan-2011	16:28 16:29	15.71 15.82	4.01 3.95	1.54 1.49	
12-Jan-2011 12-Jan-2011	16:29	15.82	3,93	1.49	
12-Jan-2011	16:31	15.76	3.98	1.51	
12-Jan-2011	16:32	15.85	3.93	1.51	
12-Jan-2011	16:33	16.00	3.83	1.52	
12-Jan-2011	16:34	15.84	3.86	1.50	
12-Jan-2011	16:35	15.64	3.99	1.56	
AVERAGES:		15.76	3.93	1.68	

AECOM Enviormental CORRECTED CEM MONITORING RESULTS INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A CLIENT: / SITE: Norlite Corp. PROJECT NO .: SOURCE: Kiln#1 FILE NAME: Run #2-CIA CONDITION: Condition 1 Run #2 (CIA) DATE: 01/13/2011 RUN NUMBER: RUN TIME: 08:33 to 11:35 O2 % CO2 % THC ppm 20.54 Full Scale 17.99 85.40 Cyl. Gas Concentrations Zero/Span 0.00 10.97 0.00 9.04 0.00 45.50 Direct Calibration Zero Response -0.01 0.00 0.00 Direct Calibration Span Response 11.01 9.01 45.38 Initial System Zero Response 0.00 0,01 0.00 Initial System Span Response Final System Zero Response 11.00 8.98 45.40 0.02 0.02 0.03 Final System Span Response 11.01 8.96 45.54 Initial/Final System Bias, Zero (%) 0.05 0.06 0.00 0.15 0.04 0.11 Initial/Final System Bias, Span (%) -0.05 0.00 -0.17 -0.28 0.02 0.19 System Drift, Zero/Span (%) 0.05 0.06 0.04 0.10 -0.11 0.16 Run Average 16.18 3.91 1.82 Corrected Run Averages 16.13 3.93 1.81 **Emission Calculations:** COMMENTS:

		INSTR		ECTED CE	M Enviormental M MONITORING RESULTS DE METHODS - 3A, 6C, 7E, 10 & 25A
CLIENT: / SITE SOURCE:		orlite Corp iln # 1	1070707070707070707		CONDITION: Condition 1 Run #2 (CIA) RUN NUMBER: 2
Date	Time	O2	CO2	THC	
Date	IIIIE	%	ppm	ppm	·
13-Jan-2011	08:33	16.06	4.00	1.77	
13-Jan-2011 13-Jan-2011	08:34 08:35	16.13 16.16	3.95 3.89	1.78 1.80	
13-Jan-2011	08:36	16.06	3.89 3.91	1.80	
13-Јал-2011	08:37	16.02	3.99	1.79	
13-Jan-2011	08:38	16.11	3.95	1.79	
13-Jan-2011 13-Jan-2011	08:39 08:40	15.98 16.03	3.99 3.99	1.83 1.81	
13-Jan-2011	08:41	16.15	3.92	1.81	
13-Jan-2011	08:42	16.15	3.92	1.80	•
13-Jan-2011 13-Jan-2011	08;43 08;44	16.19 16.03	3.87 3.95	1.82 1.81	
13-Jan-2011	08:45	16.05	3.98	1.82	
13-Jan-2011	08;46	16,10	3.95	1.80	
13-Jan-2011	08:47	16.16	3.93	1.78	
13-Jan-2011 13-Jan-2011	08;48 08;49	15.94 15.67	3.83 3.92	1.77 1.71	
13-Jan-2011	08;50	15.91	4.15	1.80	
13-Jan-2011	08;51	16.00	4.03	1.78	
13-Jan-2011 13-Jan-2011	08;52 08;53	15.93 15.98	4.07 4.07	1.78	
13-Jan-2011	08:54	15.96	4.07	1.77 1.78	
13-Jan-2011	08:55	15.94	4.04	1.77	
13-Jan-2011	08:56	16.01	4.04	1.77	
13-Jan-2011 13-Jan-2011	08:57 08:58	15.91 15.96	4.07 4.05	1.78 1.78	•
13-Jan-2011	08:59	15.98	4.05	1.76	
13-Jan-2011	09:00	16.11	3.96	1.78	
13-Jan-2011	09:01	16.11	3.93	1.80	
13-Jan-2011 13-Jan-2011	09:02 09:03	16.07 16.23	3.97 3.88	1.79 1.78	
13-Jan-2011	09:04	15.98	3.97	1.77	
13-Jan-2011	09:05	16.02	4.04	1,80	
13-Jan-2011 13-Jan-2011	09:06 09:07	16.17 16.10	3.93 3.93	1.77 1.76	
13-Jan-2011	09:08	16.12	3.94	1.76	
13-Jan-2011	09:09	16.14	3.93	1.74	
13-Jan-2011	09:10	16.14	3.89	1.77	
13-Jan-2011 13-Jan-2011	09:11 09:12	16.13 16.12	` 3.90 3.93	1.78 1.79	
13-Jan-2011	09:13	16.22	3.87	1.80	
13-Jan-2011	09:14	16,07	3,96	1,80	
13-Jan-2011 13-Jan-2011	09:15 09:16	16.10 16.16	3.97 3.91	1.81 1.78	•
13-Jan-2011	09:17	16.16	3.90	1.76	
13-Jan-2011	09:18	16.29	3.81	1.79	
13-Jan-2011	09:19	16.29	3.80	1.79	
13-Jan-2011 13-Jan-2011	09:20 09:21	16.32 16.33	3.78 3.77	1.82 1.78	
13-Jan-2011	09:22	16.37	3.76	1.77	
13-Jan-2011	09:23	16.42	3.67	1.76	
13-Jan-2011 13-Jan-2011	09:24 09:25	16.22 16.15	3.80 3.89	1.78 1.77	
13-Jan-2011	09:26	16.19	3.88	1.77	
13-Jan-2011	09:27	16.19	3.91	1.78	
13-Jan-2011	09:28	16.21	3.89	1.74	
13-Jan-2011 13-Jan-2011	09:29 09:30	16.28 16.26	3.82 3.81	1,76 1.76	
13-Jan-2011	09:30	16.28	3.80	1.75	•
13-Jan-2011	09:32	16.29	3.85	1,75	
13-Jan-2011	09:33	16.45 16.27	3.75	1,75 1,75	
13-Jan-2011 13-Jan-2011	09:34 09:35	16.27 16.21	3.78 3.85	1,75 1,75	
13-Jan-2011	09:36	16.09	3.96	1.76	

			INCODE		M Enviormental V: MONITORING RESULTS
		*;141:141:141:141:141:141:	UMENTAL		E METHODS - 3A, 6C, 7E, 10 & 25A
CLIENT: / SITE:		lorlite Corp. (iln # 1	•		CONDITION: Condition 1 Run #2 (CIA) RUN NUMBER: 2
Date T	ime	O2 %	CO2	THC	
		/0	ppm	ppm	
13-Jan-2011	09:37	16.10	3.98	1.77	
13-Jan-2011 13-Jan-2011	09:38 09:39	16.18 16.23	3.92 3.84	1.75 1.79	
13-Jan-2011	09:40	16.26	3.88	1.79	
13-Jan-2011	09:41	16,30	3.82	1.79	
13-Jan-2011 13-Jan-2011	09:42 09:43	16,26 16,26	3.82 3.84	1.80 1.79	
13-Jan-2011	09:44	16,24	3.81	1.81	
13-Jan-2011	09:45	16,20	3,89	1.80	
13-Jan-2011 13-Jan-2011	09:46 09:47	16.23 16.28	3,85 3,89	1,83 1,82	
13-Jan-2011	09:48	16.33	3,80	1.80	
13-Jan-2011	09:49	16.28	3.82	1.83	
13-Jan-2011	09:50	16.25	3.83	1.81	
13-Jan-2011 13-Jan-2011	09:51 09:52	16.16 16.11	3.85 3.96	1.82 1.83	
13-Jan-2011	09:53	16.17	3.96	1.84	
13-Jan-2011	09:54	16.17	3.93	1.85	
13-Jan-2011	09:55	16.23	3.86	1,83	
13-Jan-2011 13-Jan-2011	09:56 09:57	16.28 16.23	3.82 3.88	1.86 1.85	
13-Jan-2011	09:58	16.30	3.82	1.83	
13-Jan-2011	09:59	16.25	3.83	1.85	•
13-Jan-2011 13-Jan-2011	10:00 10:01	16.22 16.24	3,87 3,88	1.84 1.83	
13-Jan-2011	10:01	16.24	3.88	1.84	
13-Jan-2011	10:03	16.14	3.89	1.86	
13-Jan-2011	10:04	16.13	3.99	1.82	
13-Jan-2011 13-Jan-2011	10:05 10:06	16.21 16.27	3.90 3.85	1.81 1.83	•
13-Jan-2011	10:07	16.21	3.89	1.82	
13-Jan-2011	10:08	16.32	3.85	1.84	
13-Jan-2011 13-Jan-2011	10:09 10:10	16.26 16.24	3.86 3.87	1.82 1.82	
13-Jan-2011	10:10	16.29	3.82	1.82	
13-Jan-2011	10:12	16.33	3.80	1.82	
13-Jan-2011	10:13	16.27	3.85	1.85	•
13-Jan-2011 13-Jan-2011	10:14 10:15	16.17 16.02	3.89 3.99	1.82 1.83	
13-Jan-2011	10:16	16.05	4.00	1.85	
13-Jan-2011	10:17	16.05	4.06	1.84	·
13-Jan-2011	10:18	16.23 16.14	3.96	1.84	
13-Jan-2011 13-Jan-2011	10:19 10:20	16.14 16.19	3.94 3.94	1.83 1.84	
13-Jan-2011	10:21	16.17	3.91	1.83	
13-Jan-2011	10:22	16.16	3.95	1.83	
13-Jan-2011 13-Jan-2011	10:23 10:24	16.21 16.12	3.91 3.98	1.86 1.85	•
13-Jan-2011	10:25	16.46	3.86	1.84	
13-Jan-2011	10:26	16.39	3.72	1.84	
13-Jan-2011 13-Jan-2011	10:27 10:28	16.23 16.46	3.85 3.80	1.86 1.86	
13-Jan-2011	10:28	16.49	3.70	1.86 1.85	
13-Jan-2011	10:30	16.46	3.70	1.86	
13-Jan-2011 .	. 10:31	16.34	3.70	1.85	
13-Jan-2011 13-Jan-2011	10:32 10:33	16.06 16.19	3.87 3.91	1.88 1.89	
13-Jan-2011	10:34	16.16	3.93	1.85	
13-Jan-2011	10:35	16.09	3.93	1.86	
13-Jan-2011	10:36	15.91 15.90	4.04	1.86	
13-Jan-2011 13-Jan-2011	10:37 10:38	15.90 16.04	4.16 4.07	1.87 1.88	
13-Jan-2011	10:39	15.65	4.14	1.87	
13-Jan-2011	10:40	15.96	4.20	1.90	

			UNCORR	ECTED CEN	l Envlormental MONITORING RESULTS
		INSTR	UMENTAL	REFERENC	E METHODS - 3A, 6C, 7E, 10 & 25A
CLIENT: / SIT	ΓE: N	orlite Corp	•	****************	CONDITION: Condition 1 Run #2 (CIA)
SOURCE:	K	iln#1			RUN NUMBER: 2
Date	Time	O2	CO2	THC	
		%	ppm	ppm	
10 1 0044	45.44	40.00			
13-Jan-2011 13-Jan-2011	10:41 10:42	16.02	4.06 4.06	1.87	
13-Jan-2011	10:42	15.98 16.01	4.05	1.88 1.89	
13-Jan-2011	10:44	15.98	4.06	1.88	
13-Jan-2011	10:45	16.05	4.03	1.90	
13-Jan-2011	10:46	16.26	3.95	1.86	
13-Jan-2011	10:47	16.51	3.78	1.87	
13-Jan-2011	10:48	16.52	3,66	1.88	
13-Jan-2011	10:49	16.49	3.68	1.85	
13-Jan-2011 13-Jan-2011	10:50 10:51	16.56 16.20	3.65 3.75	1.85 1.85	
13-Jan-2011	10:51	15.94	4.05	1.88	
13-Jan-2011	10:52	16.02	4.09	1.84	
13-Jan-2011	10:54	16.24	3.94	1.84	
13-Jan-2011	10:55	16.16	3.93	1.85	
13-Jan-2011	10:56	16.11	3.95	1.82	
13-Jan-2011	10:57	16.10	4.00	1.84	
13-Jan-2011 13-Jan-2011	10:58 10:59	16.12 16.08	3.98 4.00	1.88 1.89	
13-Jan-2011	11:00	16.08	3.98	1,88	
13-Jan-2011	11:01	16.21	3.91	1.88	
13-Jan-2011	11:02	16.26	3.96	1.90	
13-Jan-2011	11:03	16.40	3.82	1.87	•
13-Jan-2011	11:04	16.36	3.71	1.87	
13-Jan-2011	11:05	16.17	3.98	1.88	
13-Jan-2011	11:06	16.21	3,89	1.86	
13-Jan-2011 13-Jan-2011	11:07 11:08	16.34 16.29	3,83 3,80	1.87 1.84	
13-Jan-2011	11:09	16.30	3.82	1.86	
13-Jan-2011	11:10	16.16	3.89	1.85	
13-Jan-2011	11:11	16.13	3.93	1.85	
13-Jan-2011	11:12	16.13	3.93	1.87	
13-Jan-2011	11:13	16.48	3.86	1.85	
13-Jan-2011	11:14	16.07	3.83	1.87	
13-Jan-2011 13-Jan-2011	11:15 11:16	16.21 16.22	3.91 3.88	1.86 1.84	
13-Jan-2011	11:17	16.22	3.90	1.86	
13-Jan-2011	11:18	16.30	3,84	1.86	
13-Jan-2011	11:19	16,18	3.91	1.86	
13-Jan-2011	11:20	16.19	3.92	1.86	•
13-Jan-2011	11:21	16.17	3.92	1.87	
13-Jan-2011	11:22	16.20	3.93	1.86	
13-Jan-2011 13-Jan-2011	11:23 11:24	16.23 16.17	3.87 3.92	1.83 1.85	
13-Jan-2011	11:25	16.13	3.94	1.83	
13-Jan-2011	11:26	16.23	3.89	1,85	
13-Jan-2011	11:27	16.19	3.89	1.84	
13-Jan-2011	11:28	16.19	3.91	1.87	
13-Jan-2011	11:29	16,13	3.98	1.89	
13-Jan-2011	11:30	16.24	3.89	1.86	
13-Jan-2011 13-Jan-2011	11:31 11:32	16.40 16.32	3.81 3.76	1.87 1.88	·
13-Jan-2011	11:32	16.16	3.89	1.86	
13-Jan-2011	11:34	16.20	3.94	1.88	
13-Jan-2011	11:35	16.24	.3.87	1.88	
AVERAGES:		16.18	3.91	1.82	·

AECOM Enviormental CORRECTED CEM MONITORING RESULTS INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A CLIENT: / SITE: Norlite Corp. PROJECT NO.: SOURCE: Kiln#1 FILE NAME: Run #3-CIA CONDITION: Condition 1 Run #3 (CIA) 01/13/2011 DATE: RUN NUMBER: RUN TIME: 12:00 to 15:30 3 02 % CO2 % THC ppm Full Scale 20.54 17.99 85.40 Cyl. Gas Concentrations Zero/Span 10.97 0.00 9.04 0.00 0.00 45.50 Direct Calibration Zero Response -0.01 0.00 0.00 Direct Calibration Span Response 11.01 9.01 45.38 Initial System Zero Response 0.02 0.02 0.03 Initial System Span Response Final System Zero Response 11.01 8.96 45.54 0.03 0.02 0.05 Final System Span Response 11.00 8.98 45.61 Initial/Final System Bias, Zero (%) 0.15 0.19 0.11 0.11 0.04 0.06 Initial/Final System Bias, Span (%) 0.00 -0.05 -0.28 -0.17 0.19 0.27 System Drift, Zero/Span (%) 0.05 -0.05 0.00 0.11 0.02 0.08 3,96 Run Average 16.13 1.77 Corrected Run Averages 16.09 3.98 1.73 Emission Calculations: COMMENTS:

			UNICODE		OM Enviormental M:MONITORING RESULTS
			UMENTAL		CE METHODS - 3A, 6C, 7E, 10 & 25A
CLIENT: / SITE		orlite Corp iln # 1	•		CONDITION: Condition 1 Run #3 (CIA) RUN NUMBER: 3
Date	Time	O2 %	CO2 ppm	THC ppm	
1					
13-Jan-2011 13-Jan-2011	12:00 12:01	16.39 16.30	3.76 3.78	1.77 1.79	
13-Jan-2011	12:02	16.41	3.80	1.78	•
13-Jan-2011 13-Jan-2011	12:03 12:04	16.40 16.32	3.72 3.79	1.78 1.74	
13-Jan-2011	12:05	16.30	3.80	1.76	
13-Jan-2011 13-Jan-2011	12:06 12:07	16.35 16.34	3.78 3.77	1.72 1.72	
13-Jan-2011	12:08	16.34	3.76	1.74	
13-Jan-2011 13-Jan-2011	12:09 12:10	16.30 16.42	3.80 3.74	1.74 1.77	
13-Jan-2011	12:11	16.39	3.73	1.78	
13-Jan-2011 13-Jan-2011	12:12 12:13	16.35 16.44	3.77 3.72	1.77 1.76	
13-Jan-2011	12:14	16.43	3.71	1.78	
13-Jan-2011 13-Jan-2011	12:15 12:16	16.30 16.24	3.76 3.86	1.81 1.81	
13-Jan-2011	12:17	16.32	3.78	1.81	
13-Jan-2011 13-Jan-2011	12:18 12:19	16.47 16.27	3.73 3.76	1.82 1.79	
13-Jan-2011	12:20	16.36	3.76	1.82	
13-Jan-2011 13-Jan-2011	12:21 12:22	16.34 16.27	3.75 3.82	1.81 1.82	
13-Jan-2011	12:23	16.46	3.74	1.84	
13-Jan-2011 13-Jan-2011	12:24 12:25	16.51 16.61	3.67 3.58	1.81 1.82	
13-Jan-2011	12:26	16.37	3.58	1,80	
13-Jan-2011 13-Jan-2011	12:27 12:28	15.94 16,13	4.12 3.99	1.83 1.82	
13-Jan-2011	12:29	16.15	3,95	1.81	
13-Jan-2011 13-Jan-2011	12:30 12:31	16.31 16.35	3.84 3.76	1.83 1.80	
13-Jan-2011	12:32	16.40	3.75	1.82	
13-Jan-2011 13-Jan-2011	12:33 12:34	16.47 16.09	3.71 3.73	1.78 1.79	
13-Jan-2011	12:35	16.17	3.91	1.80	
13-Jan-2011 13-Jan-2011	12:36 12:37	16.03 16.11	3.90 3.97	1.78 1.81	
13-Jan-2011	12:38	16.04	3.99	1.79	
13-Jan-2011 13-Jan-2011	12:39 12:40	16.26 16.30	3.92 3.79	1.80 1.77	
13-Jan-2011	12:41	15.88	3.91	1.77	
13-Jan-2011 13-Jan-2011	12:42 12:43	16.00 16.15	4.03 3.95	1.79 1.76	
13-Jan-2011	12:44 12:44	16.12	3.97	1.80	
13-Jan-2011 13-Jan-2011	12:45 12:46	16.31 16.22	3.92 3.84	1.78 1.78	
13-Jan-2011	12:47	16.18	3.91	1,76	•
13-Jan-2011 13-Jan-2011	12:48 12:49	16.25 16.11	3.87 3.92	1,77 1,80	
13-Jan-2011	12:50	16,23	3.91	1.78	
13-Jan-2011 13-Jan-2011	12:51 12:52	16.22 16.26	3.87 3.87	1.78 1.79	
13-Jan-2011	12:53	16.28	3.83	1.78	
13-Jan-2011 13-Jan-2011	12:54 12:55	16.22 16.25	3.87	1.80	
13-Jan-2011 13-Jan-2011	12:56	16.25	3.87 3.95	1.81 1.81	
13-Jan-2011	12:57	16.21	3.95	1.80	
13-Jan-2011 13-Jan-2011	12:58 12:59	16.30 16.56	3.84 3.73	1.79 1.82	
13-Jan-2011	13:00 13:01	16.60	3.60	1.79	
13-Jan-2011 13-Jan-2011	13:01 13:02	16.09 16.35	3.75 3.83	1.78 1.78	
13-Jan-2011	13:03	16.47	3.77	1.80	

				AFCON	f Enviormental:
			UNCORR	ECTED CEN	MONITORING RESULTS
OUTNE COTE			JMENTAL	REFERENC	EMETHODS - 3A, 6C, 7E, 10 & 26A
CLIENT: / SITE:		orlite Corp. iln#1			CONDITION: Condition 1 Run #3 (CIA) RUN NUMBER: 3
Date 7	Гime	O2	CO2	THC	
		%	ppm	ppm	
13-Јап-2011	13:04	16.36	3.74	1.77	
13-Jan-2011	13:05	16.77	3.53	1.74	
13-Jan-2011 13-Jan-2011	13:06 13:07	16.46 15.74	3.58 4.27	1.77 1.77	
13-Jan-2011	13:08	16.68	3.65	1.76	
13-Jan-2011	13:09	16.53	3.57	1.78	
13-Jan-2011 13-Jan-2011	13:10 13:11	15.98 16.06	4.06 3.99	1.77 1.78	
13-Jan-2011	13:12	15.92	4.21	1.76	
13-Jan-2011	13:13	16.34	3.96	1.78	
13-Jan-2011 13-Jan-2011	13:14 13:15	15.87 16.07	3.94 4.16	1.78 1.76	
13-Jan-2011	13:16	16.13	3.98	1.79	
13-Jan-2011	13:17	16.13	3.94	1.80	
13-Jan-2011 13-Jan-2011	13:18	16.25 18.27	3.91	1.79	
13-Jan-2011	13:19 13:20	16.27 16.42	3.84 3.79	1.79 1.80	
13-Jan-2011	13:21	16.30	3.72	1.82	
13-Jan-2011	13:22	16.03	3.90	1.77	
13-Jan-2011 13-Jan-2011	13:23 13:24	16.59 16.20	3.68 3.66	1.80 1.78	
13-Jan-2011	13:25	16.21	3.83	1.77	
13-Jan-2011	13:26	16.21	3.90	1.78	
13-Jan-2011	13:27	15.42	4.27	1.78	
13-Jan-2011 13-Jan-2011	13:28 13:29	15.36 16.08	4.59 4.17	1.80 1.77	
13-Jan-2011	13:30	16.30	3.90	1.80	
13-Jan-2011	13:31	16.18	3.89	1.82	•
13-Jan-2011 13-Jan-2011	13:32 13:33	16.05 16.31	4.00 3.94	1.80 1.78	
13-Jan-2011	13:34	16.51	3.80	1.78	
13-Jan-2011	13:35	16.41	3.73	1.81	
13-Jan-2011 13-Jan-2011	13:36 13:37	16.24	3,86	1.81	
13-Jan-2011	13:37	16.27 16.26	3.85 3.84	1.78 1.81	
13-Jan-2011	13:39	16.26	3.87	1.78	
13-Jan-2011	13:40	16.31	3.84	1.76	
13-Jan-2011 13-Jan-2011	13:41 13:42	16.31 16.31	3.80 3.80	1.77 1.75	
13-Jan-2011	13:43	16.38	3.77	1.76	
13-Jan-2011	13:44	16.41	3.76	1.72	
13-Jan-2011 13-Jan-2011	13:45 13:46	16.38 16.04	3.75	1.74	
13-Jan-2011	13:46 13:47	16.04 15.95	3.89 4.17	1.74 1.75	
13-Jan-2011	13:48	16.14	4.00	1.75	
13-Jan-2011	13:49	16.10	3.92	1.75	
13-Jan-2011 13-Jan-2011	13:50 13:51	16.11 16.01	3.99 4.05	1.77 1.74	
13-Jan-2011	13:52	16.13	4.03	1.74	
13-Jan-2011	13:53	16.13	3.93	1.75	
13-Jan-2011 13-Jan-2011	13:54 13:55	16.10 16.26	4.00 3.88	1.74 1.75	
13-Jan-2011	13:56	16.15	3.92	1.73	
13-Jan-2011	13:57	16.27	3.85	1.76	
13-Jan-2011	13:58	16.24	3.85	1.76	•
13-Jan-2011 13-Jan-2011	13:59 14:00	16.28 16.31	3.85 3.83	1.76 1.77	
13-Jan-2011	14:01	16.25	3.84	1.74	
13-Jan-2011	14:02	16.30	3.85	1.75	
13-Jan-2011 13-Jan-2011	14:03 14:04	16.41 16.25	3.79 3.82	1.73 1.74	
13-Jan-2011	14:05	16.27	3.87	1.76	
13-Jan-2011	14:06	16.25	3.86	1.72	
13-Jan-2011	14:07	16.28	3.85	1.75	

AECOM Enviormental UNCORRECTED CEM MONITORING RESULTS INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A CLIENT: / SITE: Norlite Corp. CONDITION: Condition 1 Run #3 (CIA) Kiln#1 **RUN NUMBER:** SOURCE: 3 Time 02 CO₂ THC Date % ppm ppm 13-Jan-2011 14:08 16.25 3.84 1.87 13-Jan-2011 14:09 16.24 3.88 1.73 13-Jan-2011 14:10 16 74 3.62 173 13-Jan-2011 14:11 16.35 3.59 1.72 13-Jan-2011 14:12 16.14 3.87 1.73 13-Jan-2011 14:13 16 16 3 94 1.70 13-Jan-2011 14:14 16.15 3.95 1.71 13-Jan-2011 1.73 14:15 16 19 3.93 13-Jan-2011 14:16 16.10 3.97 1.69 13-Jan-2011 14:17 16.20 3.95 1.69 13-Jan-2011 14:18 16,40 3.81 1.69 14:19 3.81 13-Jan-2011 16.22 1.73 1.74 13-Jan-2011 14:20 16.14 3.94 13-Jan-2011 14:21 15.98 4.03 1.70 13-Jan-2011 14:22 15.98 4.06 1.72 13-Jan-2011 14:23 16.08 4.00 1.72 13-Jan-2011 14:24 15.99 4.08 1.76 13-Jan-2011 14:25 16.15 4.00 1.73 13-Jan-2011 14:26 16.15 3.92 1.73 3.87 13-Jan-2011 14:27 16.26 176 13-Jan-2011 14:28 15.92 3.98 1.75 13-Jan-2011 14:29 15.86 4.15 1.77 13-Jan-2011 14:30 15.75 4.26 1.77 13-Jan-2011 14:31 15.73 4.28 1.79 13-Jan-2011 14:32 15 71 4 33 1.80 13-Jan-2011 14:33 16.07 4.17 1.78 13-Jan-2011 14:34 15.93 4.12 1.81 13-Jan-2011 14:35 15.90 4.16 1.80 13-Jan-2011 14:36 15.84 4.21 1.79 13-Jan-2011 14:37 15.93 4 14 1 77 13-Jan-2011 14:38 15,86 4,16 1.80 13-Jan-2011 14:39 15,95 4.22 1.80 13-Jan-2011 14:40 15.92 4.09 1.76 14:41 13-Jan-2011 15.81 4.23 1.78 14:42 13-Jan-2011 15.92 4.18 1.77 13-Jan-2011 14:43 15.39 4,40 1.79 13-Jan-2011 4.63 14:44 15.40 1.79 13-Jan-2011 14:45 15.82 4.37 1.80 13-Jan-2011 14:46 4.26 1.81 15.67 13-Jan-2011 14:47 15.64 4.37 1.76 13-Jan-2011 14:48 15.95 4.24 1.75 13-Jan-2011 14:49 4.01 15.91 1.76 13-Jan-2011 14:50 16.29 3.83 1.74 13-Jan-2011 4.16 1.75 14:51 15.75 13-Jan-2011 14:52 15.96 4.11 1.69 13-Jan-2011 14:53 15.93 4.14 1.73 13-Jan-2011 14:54 15.90 4.19 1.74 13-Jan-2011 14:55 15.90 4.18 1.73 13-Jan-2011 14:56 15.78 4 17 1 74 13-Jan-2011 14:57 15.74 4.28 1.73 13-Jan-2011 4.36 1.74 14:58 15,64 13-Jan-2011 14:59 15,70 4.39 1.72 13-Jan-2011 15:00 15.81 4.31 1.73 15:01 1.75 13-Jan-2011 15.83 4.27 13-Jan-2011 15:02 15.67 4.30, 1.74 13-Jan-2011 15:03 15.96 4 24 174 13-Jan-2011 15:04 15,92 4.09 1.71 13-Jan-2011 15:05 16.08 4.15 1.72 13-Jan-2011 15:06 15.99 4.09 1.75 13-Jan-2011 15:07 4.09 16,08 1.74 15:08 13-Jan-2011 16.06 3.99 1.76 13-Jan-2011 15:09 16.02 4.08 1.75 13-Jan-2011 15:10 16.14 4.00 1.77 13-Jan-2011 4.02 1.75 15:11 16,11

District district district district			[v]v]v]v[v]v[v]v]v]v]v]v]	monochialisean	
			UNCORR		Enviormental MONITORING RESULTS
		INST			METHODS - 3A, 6C, 7E, 10 & 25A
CLIENT: / SIT	renderenderen FE: N	lorlite Corp	(1939)96969696939696969 1.	:=:::::::::::::::::::::::::::::::::::::	CONDITION: Condition 1 Run #3 (CIA)
SOURCE:		(iln # 1	•		RUN NUMBER: 3
Date	Time	O2	CO2	THC	
	1 11110	%	ppm	ppm	
13-Jan-2011	15:12	15.84	4.08	1.75	
13-Jan-2011	15:13	15.80	4.20	1.78	
13-Jan-2011	15:14	15.75	4.33	1.75	
13-Jan-2011	15:15	15.66	4.37	1.74	
13-Jan-2011	15:16	15.62	4.45	1.75	
13-Jan-2011	15:17	15.72	4.34	1.73	
13-Jan-2011	15:18	15.87	4.30	1.77	
13-Jan-2011	15:19	15.87	4.24	1.72	•
13-Jan-2011	15:20	16.01	4.14	1.75	
13-Jan-2011	15:21	15.79	4,15	1.75	
13-Jan-2011	15:22	15.88	4.24	1.75	
13-Jan-2011	15:23	15.87	4.19	1.76	
13-Jan-2011	15:24	15.86	4,25	1.75	
13-Jan-2011	15:25	16.13	4,09	1.76	
13-Jan-2011	15:26	16.19	3,97	1.73	
13-Jan-2011	15:27	16.06	4,01	1.73	
13-Jan-2011	15:28	15.87	4.06	1,76	
13-Jan-2011	15:29	15.59	4.25	1.75	
13-Jan-2011	15:30	15.95	4.27	1.78	
AVERAGES:		16.13	3.96	1.77	

AECOM

Client: Norlite Corp.

Location: Cohoes, NY.

Date: 01/12/11

Day: Wednesday

Project No.: 60/634/1.200

Performed By: Robert Sicard

Run # Run Time Type of Calibration

Kiln # 1

<u>Direct:</u>
Initial:

Direct: System: TH Final:

	←	Direct	Cal		+ Start of Day -			
Instrument	1		2		3		4	
	Conc.	Response	Conc.	Response	Conc.	Response	Conc.	Response
02	0.00	0.01	20.54	20.60	10.97	11.02		
CO2	0.00	0.00	17.99	18.10	9.04	9.14		
THO	0.00	0.02	85.40	85.46	45.50	45.68	25.10	25.32
			- ""					

Instrument	O2	CO2	THC			
Scale	0-25%	0-20%	0-100 ppm	ı		1

CEM#2 C:\WBW\DATA\MASTERS\[calsheetdir.xls]A

AECOM

Client:	Norlite Corp.		
Location:	Cohoes, NY.		Project No.: 60/634/1.200
Date:	01/12/11		Performed By: Robert Sicard
Day:	Wednesday	Kiln # 1	

Run #	Run Time		T	Type of Calibration			
1	09:03 4012:04		Direct:	System:			
	No the data	0 # ~	Initial:	Final:			
		Ron's	Dioxan Init	ial Rusti VOST			

	+ Initial Run#1				Final Rus#1			
Instrument		1		2		3		4
	Conc.	Response	Conc.	Response	Conc.	Response	Conc.	Response
02	0.00	0.02	10.97	11.08	0.00	0.03	10.97	11.10
CO2	0.00	0.01	9.04	9.15	0.00	0.02	9.04	9.14
THC	0.00	0.0(45.50	45.60	0.00	0.10	45.50	45.54

		·				 	
- 1		na a na sa			NA ITAMAKA NA MAKA MAKA MAKA		
- 1	Instrument	O2	CO2	THC			
- 1		- V2	- $ -$				
	Asia mid-chiesti infratione service especial c			nagi di di da da da da da da da da da da da da da		dahakababaaaaaaaaaaaaa	
	Scale	0-25%	0-20%	0-100 ppm			4

CEM #2 C:\WBW\DATA\NORLITE\2011\[calsheetdir.xls]A

AECOM

Client:	Norlite Corp.				
Location:	Cohoes, NY.		Project No.:		
Date: 01/12/11			Performed By: Robert Sicard		
Day:	Wednesday	Kiln # 1			
Run # Run Time		CIA-R1	Type of Calibration		
/	13:33 to 16:35		Direct:	System:	
·			Initial:	Final:	

	←	Fin al	RUNKI		◀	-	•	_
Instrument				2		3		4
	Conc.	Response	Conc.	Response	Conc.	Response	Conc.	Response
02	0.00	0.04	10.97	11.14	0.00		10.97	
CO2	0.00	0-04	9.04	9.12	0.00		9.04	:
THC	0.00	-0.04	45.50	44.59	0.00		45.50	

		**						
					Welected above melecoenes as seen		Middle blok beren kene germe sa is	
Incformant	ഹാ		THE					
Instrument	UZ	UU2	LHC					
	arababhahanshahahan kasulan da	Cacionexerenesiamencenes	eracheenbicheenbiskenbisch	MONOMENTONENAMONENAMONES			***************************************	nescalitabilistabeaucenase.
						ľ		1 "
Scale	0-25%	0-20%	0-100 ppm			Į.		
DUALE	0-4370	U-2U 70	ո-ւսս իիւս	1.4		[·		1

CEM #2 C:\WBW\DATA\NORLITE\2011\[calsheetsys.xls]A

AECOM

Client: Norlite Corp.

Location: Cohoes, NY.

Date: 01/13/11

Day: Thursday

Project No.:

60163411

Performed By: Robert Sicard

Kiln # 1

Run #	Run Time	CIA	Type of Calibration	
	07:50		Direct: 🛇	System: 74/C
			Initial: 🚫	Final:

Direct Cal					Start of Day			—	
Instrument		1		2		3		4	
	Conc.	Response	Conc.	Response	Conc.	Response	Conc.	Response	
02	0.00	-0.01	20.54	20.50	10.97	11.01	•		
CO2	0.00	0.00	17.99	18.01	9.04	9.01			
THC	0.00	0.00	85.40	85.30	45.50	45.38	25.10	25.05	
£#.									

Instrument	02	CO2	THC			
Scale	0-25%	0-20%	0-100 ppm			1

CEM#2 C:\WBW\DATA\NORLITE\2011\[calsheetdir.xls]A

AECOM

Client: Norlite Corp.

Location: Cohoes, NY.

Date:

01/13/11

Day:

Thursday

Project No.:

60163411.200

Performed By: Robert Sicard

Kiln # 1

Run # Run Time

2 (CIA) 08:33 To 11:35

CIA-R2

Type of Calibration

Direct:

System: (4)

Initial: (🕉

Final:

	◀	Fritial (₹2 #2		Final Rontz				
Instrument		1		2		3		4	
	Conc.	Response	Conc.	Response	Conc.	Response	Conc.	Response	
02	0.00	0.00	10.97	11.00	0.00	0.02	10.97	11.61	
CO2	0.00	0.01	9.04	8.78	0.00	0.02	9.04	8.96	
THC	0.00	0.00	45.50	45.40	0.00	0.03	45.50	45.54	

Instrument O2	CO2	THC			
Scale 0-25%	0-20%	. 0-100 ppm	_		,

CEM #2 C:\WBW\DATA\NORLITE\2011\[calsheetsys.xls]A

AECOM

Client: Norlite Corp.

Location: Cohoes, NY.

Date: 01/13/11

Day: Thursday

Project No.: 60/634/1.200

Performed By: Robert Sicard

Run # Run Time CIA Type of Calibration

Kiln # 1

3 12:00 To 15:30

Direct: System: Final: Simple

	◀	Finalk	200#3		 			
Instrument		1		2		3		4
	Conc.	Response	Conc.	Response	Conc.	Response	Conc.	Response
02	0.00	0.03	10.97	11.00	0.00		10.97	i
CO2	0.00	0.02	9.04	8.98	0.00		9.04	
THC	0.00	0.05	45.50	45.61	0.00		45.50	

Instrument O2		CO2	THC			
Scale 0-25%	%	. 0-20%	0-100 ppm		 ,	

CEM #2 C:\WBW\DATA\NORLITE\2011\[calsheetsys.xls]A

Field Data **RESPONSE TIME RESULTS - 02 %**

Client:/Site:	Norlite Corp.	Monitor:	Servomex 1400
Source:	Kiln # 1	Serial Numbe	r: 47
Date:	01/11/11	Span:	25 %
Calibration gas	s values: 0 - 10.97 %	6	
		UPSCALE	
Run No.		Time (sec.)	
1		58	
2		57	
3		5 7	
Averages	-	57	
		DOWNSCAI	Æ
Run No.		Time (sec.)	
1		G/	
2		Ce 1	
3		Q1	
Average		Ce (
System Res	sponse Time =	GI	
Acceptance Crite	ria:		
Maximum 2 minute	s		
Note - System response time is			

Field Data **RESPONSE TIME RESULTS - CO2 %**

Client:/Site:	Norlite Corp.	Monitor:	Servomex 1400
Source:	Kiln # 1	Serial Numbe	r: B691
Date:	01/11/11	Span:	20 %
Calibration gas	s values: 0 - 9.04 %		
		UPSCALE	
Run No.		Time (sec.)	
1		66	
2	, , , , , , , , , , , , , , , , , , , ,	63	
3		68	
Average		67	
		DOWNSCAI	Æ
Run No.		Time (sec.)	
1		64	
2		G 5	
3		G5	
Average		65	
	sponse Time =	67	
Acceptance Crite	ria:		
Maximum 2 minute	s		
Note - System response time is			

Field Data **RESPONSE TIME RESULTS - THC**

O11 4 4014	N. II. C		
Client:/Site:	Norlite Corp.	Monitor:	VIG - Model 20
Source:	Kiln # 1	Serial Numbe	r: 1794
Date:	01/11/11	Span:	100 ppm
Calibration gas	s values: 0 - 45.5 p	pm	-
		UPSCALE	
Run No.		Time (sec.)	
1		53	
2		53	
3		51	_
Average	:	52	
		DOWNSCAL	LE .
Run No.		Time (sec.)	
1		<u>55</u>	
2		54	
3		53	
Average	:	54	
System Re	sponse Time =	5 4	
cceptance Crite	ria;		
Maximum 2 minute	s		
lote - System esponse time is			

Airgas Specialty Gases

600 Union Landing Road Riverton, NJ 08077 (858) 829-7878 Fax (856) 829-0571 www.airgas.com

Part Number:

E02NI79E15AC667

Reference Number: 82-124136886-1

Cylinder Number:

XC032961B

Cylinder Volume:

146 Cu.Ft.

Laboratory:

ASG - Riverton - NJ

Cylinder Pressure:

2015 PSIG

Analysis Date:

May 07, 2008

Valve Outlet:

590

Expiration Date: May 07, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.

Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

Component Concentration Concentration Method U	otal Relative ncertainity - 1% NIST Traceable
CALIBRATION STANDARDS	Evolution Data

			CALIBRATION STANDARDS	
Туре	Lot ID	Cylinder No	Concentration	Expiration Date
NTRMplus	06060808	CC206113	22.51% OXYGEN/NITROGEN	May 01, 2010
Millimpino	400000		ANALYTICAL EQUIPMENT	
14	istakoittaadal		Analytical Principle	Last Multipoint Calibration
Instrument/Make/Model Siemens 5E BN805			Paramagnetic	May 05, 2008

Triad Data Available Upon Request

Notes:

QA Approval

Page 1 of 82-124136886-1



Airgas Specialty Gases

600 Union Landing Road Riverton, NJ 08077 (856) 829-7878 Fax (856) 829-0571 www.zirgas.com

Part Number:

E03NI80E15A0007

Reference Number: 82-124158592-1

Cylinder Number:

CC55093

Cylinder Volume:

Laboratory:

ASG - Riverton - NJ

150 Cu.Ft. Cylinder Pressure: 2015 PSIG

Analysis Date:

Nov 18, 2008

Valve Outlet:

590

Expiration Date:

Nov 18, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted. Do Not-Use This Cylinder below 150 psig.l.e. 1 Mega Pascal

	ANALYTICA BOEGING BERNINA	
		Charles County County of County Count
Comparient Request	AND THE PROPERTY OF A PROPERTY	Total Relative
Carrie Concen	ia liga de la contra lon de la contra lo	
	ration and Concentration as a Wethod	Uncertainty is a series and a series and a
CARBON DIOXIDE 114 144 144 144 144 149 000 %	99.048%; 10.97%; 13.44 G13.16	7/41% NIST Traceable
		THE TOWNIST FIGURENCE OF STREET

		CALIBRATION STANDARDS	•
Туре	Lot ID Cylinder No	Concentration	Expiration Date
NTRM	01119418 CC14317	9.72% OXYGEN/NITROGEN	Jul 05, 2010
NTRM	99061107 XC018958B	4.811% CARBON DIOXIDE/NITROGEN	- May 15, 2012
	•	ANALYTICAL EQUIPMENT	
Instrume	nt/Make/Model	Analytical Principle	Last Multipoint Callbration
Siemens	Ultramat 6E N1-N0-0820	NDIR	Oct 20, 2008
Siemens	5E BN805	Paramagnetic	Oct 30, 2008

Triad Data Available Upon Request

Notes:

Page 1 of 82-124158592-1



Airgas Specialty Gases

600 Union Landing Road Riverton, NJ 08077 (856) 828-7878 Fax (856) 829-0571 www.airgas.com

Part Number:

E03NI67E15AC377

CC14688

Cylinder Volume:

Reference Number: 82-124129265-1

Cylinder Number:

ADD Disarder N

e: 157 Cu.Ft.

Laboratory:__

ASG - Riverton - NJ

Cylinder Pressure: 2

2015 PSIG

Analysis Date:

Mar 14, 2008

Valve Outlet:

590

Expiration Date: Mar 14, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.

Do Not Use This Cylinder below 150 psig.l.e, 1 Maga Pascal

ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainity	
OXYGEN	14.50,%	14.48 %	G1	+/- 1% NIST Traceable	1.1
CARBON DIOXIDE	18.00 %	17.99 %	G1:	+/- 1% NIST Traceable	
NITROGEN	Balance	Something Bear and the South			

CALIBRATION STANDARDS					
Туре	Lot ID	Cylinder No	Concentration	Expiration Date	
NTRM	03060203	XC024381B	22.80% OXYGEN/NITROGEN	Jul 01, 2011	
NTRMplus	04060443	XC034294B	19.84% CARBON DIOXIDE/NITROGEN	May 15, 2008	
•			ANALYTICAL EQUIPMENT	•	
Instrument	/Make/Model		Analytical Principle	Last Multipoint Calibration	
Siemens Ultramat 6E N1-N0-0820		320	NDIR	Feb 18, 2008	
Siemens 5E I		,	Paramagnetic :	Mar 05, 2008	

Triad Data Available Upon Request

Notes:

QA Approval

Page 1 of 82-124129265-1



TWINSBURG, OH

CYL NUMBER:

EPA PROTO	OCOL GAS ANALYSIS	CYL NUMBER: SX-34679
COMPONENT NAME	MEAN CONCENTRATION .	LAB REFERENCE #:
Propane	25.1 PPM ± 1% REL	LOT NUMBER: 109-96-14404
Tiopano		SIZE: 1R CGA: 590
		Volume: 141 cuft Pressure: 2000 psig @ 70F
		This mixture has been analyzed
		according to EPA Traceability
		Protocol for Assay and
Balance Gas: Air		Certification of Gaseous
PROCEDURE:G1	ASSAY DATE: 9/10/09	Calibration Standards revised
	EXPIRATION DATE: 9/10/12	-PhtiDmt.
	re should not be used e falls below 150 psig: Info.	analyst's name mation continued on other side of this tag
MPONENT NAME	MEAN CONCENTRATION	LAB REFERENCE #: LOT NUMBER: 109-96-11119
tobaus	45.5 PPM ± 1% REL	SIZE: 1R CGA: 590
		Volume: 141 cuft
		Pressure: 2000 psig @ 70F
		This mixture has been analyzed
 		according to EPA Traceability
ulturu Ourr 61a		Protocol for Assay and Certification of Gaseous
ialance Gas: Air		Calibration Standards ravised
ROCEDURE:G1	ASSAY DATE: 3/10/09	011.00
The Control of the Co	EXPIRATION DATE: 3/10/12	DAY O. MAY
NOTE: this mixture when the pressure f		analysi's name ation continued on other side of this tag
TRI		SBURG, OH
EPA PROT	ocol gas analysis	
COMPONENT NAME	TIES NO CONCENTRATION	LAB REFERENCE #
Propane	MEAN CONCENTRATION	
	85.4 PPM ± 1% REL	LOT NUMBER: 109-96-01347
		SIZE: 1R CGA: 590
		SIZE: 1R CGA: 590 Volume: 141 cuft
		SIZE: 1R CGA: 590 Volume: 141 cuft Pressure: 2000 psig @ 70F
		SIZE: 1R CGA: 590 Volume: 141 cuft Pressure: 2000 psig @ 70F This mixture has been analyzed
		SIZE: 1R CGA: 590 Volume: 141 cuft Pressure: 2000 psig @ 70F This mixture has been analyzed according to EPA Traceability Protocol for Assay and
Balance Gas: Air		SIZE: 1R CGA: 590 Volume: 141 cuft Pressure: 2000 psig @ 70F This mixture has been analyzed according to EPA Traceability Protocol for Assay and Certification of Gaseous
Balance Gas: Air PROCEDURE:G1	85.4 PPM ± 1% REL ASSAY DATE: 7/30/09	SIZE: 1R CGA: 590 Volume: 141 cuft Pressure: 2000 psig @ 70F This mixture has been analyzed according to EPA Traceability Protocol for Assay and
PROCEDURE:G1	ASSAY DATE: 7/30/09 EXPIRATION DATE: 7/30/12	SIZE: 1R CGA: 590 Volume: 141 cuft Pressure: 2000 psig @ 70F This mixture has been analyzed according to EPA Traceability Protocol for Assay and Certification of Gaseous
PROCEDURE:G1	ASSAY DATE: 7/30/09 EXPIRATION DATE: 7/30/12 re.should:rokbe.usad.	SIZE: 1R CGA: 590 Volume: 141 cuft Pressure: 2000 psig @ 70F This mixture has been analyzed according to EPA Traceability Protocol for Assay and Certification of Gaseous

AECOM Environment

Sample Shipment Documentation (January 2011 Test)

Sample Shipment Summary - Norlite Corporation MACT CPT - January 2011

Sample Description (Laboratory)	Analyses	Packages / Comments	FedEx Airbill #	Date Shipped
Method 0031	MCB	VOST Tube Sets	8739 6577 0196	1/13/11
(Air Toxics, Ltd.)		1 Z - Coolers	8739 6577 0200 -	
Method 0023A	D/F	FHR / BHR + FB	8739 6577 0174	1/13/11
(Vista Analytical)	·	2-DOT(9)	8739 6577 0185	
Method 0023A	D/F	XAD + Filters	8739 6577 0163	1/13/11
(Vista Analytical)		1 - Cooler		1 / - / -
	en contraces		Page 1 of 2	

Dangerous Goods Shipment Details - Norlite Corporation MACT CPT - January 2011

Sample Train	Reagent /		Description
	Fraction	DOT Box Type	of Contents
Method 0023A	Acetone / MeCl / Toluene	1-DOT(9)	6 - 250-mL FHR
			1 - 250-mL FB
The second of th		1-DOT(9)	6 - 250-mL BHR
			Page 2 of 2



regez.	rea	
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Detailed Results

Tracking no.: 873965770163 Select time format: 12H

Delivered

Delivered Signed for by: B.BENIDICT

Shipment Dates

Destination

Ship date Jan 13, 2011 Delivery date Jan 14, 2011 12:17 PM

Signature Proof of Delivery

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type Weight

Priority Overnight 46.0 lbs/20.9 kg

Delivered to Reference

Shipping/Receiving 60163411-200

Shipment Travel History

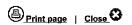
Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details	
Jan 14, 2011 12:17 PM	Delivered			
Jan 14, 2011 11:49 AM	On FedEx vehicle for delivery	RANCHO CORDOVA, CA		
Jan 14, 2011 10:36 AM	At local FedEx facility	RANCHO CORDOVA, CA		
Jan 14, 2011 8:33 AM	At dest sort facility	SACRAMENTO, CA		
Jan 14, 2011 3:37 AM	Departed FedEx location	MEMPHIS, TN		
Jan 13, 2011 11:24 PM	Arrived at FedEx location	MEMPHIS, TN		
Jan 13, 2011 8:39 PM	Left FedEx origin facility	MENANDS, NY		
Jan 13, 2011 6:05 PM	Picked up	MENANDS, NY		

	ed Ex. US Airbill Fodex 1739 6577 0163		azeo.	Sender's Copy
1	From Please print and press hard. Date 1//3/// Sender's FedEx Account Number SQ03360-19360-1948 ONLY	X	Express Package Service • To most locations. FedEx Priority Overnight lead business morning. Friday hipments will be delivered on Monday hipments SAVILDBA Delivery is elected. *To most focutions. FedEx Standard D Next business effemont. Saturday Delivery NOT av- news SAVILDBA.	• Earliest next business morning
	Sender's DOUGLAS R. ROECK Phone 978, 589-3255		FedEx 2Day second business dey.* Thursday hipments will be delivered on Menday rioss SATURDAY Delivery is selected. FedEx Express Sa Third business day.* Saturday Delivery NOT av	'
	Company AECOM, INC. C/o Norlite Corp. Address 628 S. Saratoga St.		lext business day,** Friday shipments will e delivered on Monday unless SATURDAY Forthy They Freight Booking No.	Packages over 150 lbs. L 1.800.332.0807
	Address 628 S. Southful Cy. City Cohoes State NY ZIP 12047		earchy is selected. edEx 2Day Freight econd business day.* Thursday shipments will be delivored in Monday unless SATURDAY Delivery is selected.	FedEx 3Day Freight Third business day.** Saturday Delivery NOT available.
2	Your Internal Billing Reference 60/634/16+110200	F		FedEx FedEx Other Box Tube
3	Recipient's Ms. Martha Maier Phone (916) 933-1520		Special Handling and Delivery Signature 0 ATURDAY Delivery Of evailable for Fedex Standard Overnight, Fedex Express Saver, or Fedex	
	Company Vista Analytical Caboratories, Inc. Address \$ 1104 Windfield Way Hold Weekday Federlook to red selection address Recurred. Federlook to red selection address Recurred.	P	io Signature Required schape may be left without thinking a signature for delivery. Est this shipment contain dangerous goods?	Indirect Signature If no one is evaluate at recisions dress didress, cannone at a neighboring address may sign for delivery, For residental deliveries only. Fee applies.
	We cannot deliver to P.O. baxes or P.O. ZIP codes. Dept/Floor/Sultu/Room HOLD Saturday FedSc First Overright. HOLD Saturday FedSc Design address RECURRED, Assistable DRUY for RedSc Pricting Overright and FedSc Ziby to select locations.		Shipper's Declaration. — not required. us goods (including dry ice) cannot be shipped in FedEx packaging if in a FedEx Express Orop Box.	Dry fce Dry fce, 3, UN 1845 x kg Cargo Aircraft Only
	City E1 Dorado Hills State CA ZIP 95762		Payment Bill to: ender Enter FedEx Acct. No. or Credit Can cct. No. in Section Recipient Third Party Ma. No. No.	d No. below
ı	Ship and track packages at fedex comesimplify your shipping. Manage your account. Access all the tools you need:	†Our liabil agree to	Packages Total Weight Total Declared Value of the State o	o v usbon this Airbill vou

Rev. Date 2/10 * Part #158281 * @1994-2010 FedEx * PRINTED IN U.S.A. SRY





Jan 14, 2011 3:37 AM

Jan 13, 2011 11:24 PM

Jan 13, 2011 8:34 PM

Jan 13, 2011 6:05 PM

Departed FedEx location

Arrived at FedEx location

Left FedEx origin facility

Picked up

Deteiled Besults				
Detailed Results Tracking no.: 873		Select time format: 12H	amende i delle i i titto mi si i citali inti inti into colo ante dell'este socialità tra casa trons i comi di	NA 100414-2011-148-1-178-179-179-179-179-179-179-179-179-179-179
Delivered		Delivered or by: B.BENIDICT		
Shipment Dates		Destination		
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Hold at FedEx Location	tion n service is not available for this shipment.			
Shipment Facts				
Service type Weight	Priority Overnight 9.0 lbs/4.1 kg	Delivered to Reference	Shipping/Receiving 60163411 200	
Shipment Travel I	History			,
Select time zone: Local	I Scan Time			
All shipment travel activ	vity is displayed in local time for the location			
Date/Time	Activity	Location	Details	
Jan 14, 2011 12:17 PM	Delivered			
Jan 14, 2011 11:44 AM	On FedEx vehicle for delivery	RANCHO CORDOVA, CA	i i	
Jan 14, 2011 10:32 AM	At local FedEx facility	RANCHO CORDOVA, CA		
Jan 14, 2011 8:33 AM	At dest sort facility	SACRAMENTO, CA		

MEMPHIS, TN

MEMPHIS, TN MENANDS, NY

MENANDS, NY

	ed Sx. US Airbill Feets B739 6577 0174	Sender's Copy
1	From Please print and press hard. Sender's FedEx SERON 28 26 Y S CO 2 A SER DINEY	4a Express Package Service Tomost locations. Packages up to 150 lbs. FedEx Priority Overnight FedEx Standard Overnight FedEx First Overnight
	Date 1/13/1/ Sender's FedEx SEQ 3:36 X49930 CELY	FedEx Priority Overnight Next business morning. Friday Schimens will be delivered on Monday unless SATURDAY Delivery is selected. FedEx Standard Overnight Next business elemonon.* Saturday Delivery MOT evaletile. FedEx First Overnight Exflect next business morning delivery to select liceations.*
	Sender's DOUGLAS R. ROECK Phone 1978, 589-3255	FedEx 2Day Second business day.* Thursday shipments will be delivered on Monday unless SAURDAY Delivery is selected. FedEx Express Saver Third business day.* Seturday Delivery NOT available,
	COMPANY AECOM, Inc. C/O Norlite Corp.	4b Express Freight Service **To most locations. Packages over 150 lbs.
	Address 628 S. Saratoga St.	Fed Ex 1 Day Freight CALL 1.800.332.0867 Next business day: Friday shipments will be defivered on Mondey unless SATURDAY Delivary is selected. Fed Ex 10 ALL 1.800.332.0867
	- UBptronjoungman	FedEx 2Day Freight Sectod business day." Thursday shipments will be delivered on Monday unless SAURDAY Delivery is selected. FedEx 3Day Freight Third business day." Saturday Delivery NOT available.
	City Cohoes State NY ZIP 12047	5 Packaging • Declared value limit \$500.
2	Your Internal Billing Reference 6016 3 4//c=10200	FedEx Pak* FedEx F
3	To 673-1520	6 Special Handling and Delivery Signature Options
	Name Ms. Martha Maier Phone (916) 753-1640	SATURDAY Delivery NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 30 ay Freight.
	company Vista Analytical Laboratories, Inc.	No Signature Required Package may be lett without obtaining a signature for delivery. Direct Signature Someone at tracipient's addrass may sign for delivery. Five sppilies. Indirect Signature If no one is available at recipient's addrass may sign for delivery. Five sppilies. residential delivers cont. Five septiles.
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	We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept/Floor/Suite/Room HOLD Saturday	No As per statched Shipper's Declaration Introduced. Dry Log D
	Address Felch buston eddress REULIFED, Jackshoe NMY for Felds (Priority Overnight and Felds (Carly O	Designating solds finctuling styliced cannot be shipped in Faditx packaging or placed in a Faditx Express Top Box. Cargo Aircraft Only or placed in a Faditx Express Top Box.
	Use this line for the MULD location address or for commutation of your snipping address.	7 Payment Bill to:
	City El Dorado Hills State CA ZIP 95762	Sender Enter FedEx Acct. No. or Credit Card No. below.
		Acc. No. in Section Recipient Third Party Credit Card Cash/Check
		Conditional No. Date. Total Packages Total Weight Total Declared Value*
		1 9/6
	Try Fed Ext Our ekShip at (fed ex-com) Ancessule shipping roots you need directly from Misrosoff Office Outlook	10ur liability is limited to \$100 unless you declare a higher value. See beack for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that shink our hability.

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hipper	AECOM, Inc. c/c	FOR DANGEROU Norlite Corp		Air Waybill	Nn.	(Provide at least three 8739 6577 0174		
пррог	628 South Sarat	•		1	of 1 Pages	0.00 00.7 01.7		
	Cohoes, NY 120	_		1	eference Number	60163411, Task 200		
Consignee	•	Laboratories, Inc.		Опрологи				
701 talgi 100	1104 Windfield V					-ed		
	El Dorado Hills,	•				-EU		
A 44m.	•					Evronosa		
Attn:	-	er, (916)-673-0114		WARNIN		Express		
Two completed and signed copies of this declaration must be handed to the operator.								
	ORT DETAILS					all respects with julations may be		
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	non-applicable)							
PASSENGER AND CARGO				ŀ				
AIRCRAFT				ļ				
Airport of De	estination:				Shipmer	nt type: (delet	e non-appli	cable)
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Dan	gerous Goods Id	entification						
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Additional	Handling Inform I declare that all of	nation of the applicable ai	transport requir	rements ha	ave been met.		CHECK	ONE:
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AECOM AC	count Number		74984					49 CFR
	***	· · · · · · · · · · · · · · · · · · ·				Name / Title of		
		ntents of this cons				Douglas R. Ro		
accurately described above by the proper shipping name, an					•	Project Manag Place and Date		
alabaified -	classified, packaged, marked and labeled/placarded, and ar respects in proper condition for transport according to applic International and National Governmental Regulations.					Cohoes, NY	•	
						January 15	3 , 2011	
respects in	al and National G							
respects in	al and National G					Signature	(see warning	above)
respects in	al and National G				•	Signature		



\Box	etai	hal	Rest	ılts

Tracking no.: 873965770185

Delivered

Delivered

Signed for by: B.BENIDICT

Shipment Dates

Destination

Select time format: 12H

Ship date Jan 13, 2011 Delivery date Jan 14, 2011 12:17 PM

Signature Proof of Delivery

Shipment Options

Hold at FedEx Location

Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type Weight

Priority Overnight 8.0 lbs/3.6 kg

Delivered to

Shipping/Receiving

60163411-200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details	
Jan 14, 2011 12:17 PM	Delivered			
Jan 14, 2011 11:45 AM	On FedEx vehicle for delivery	RANCHO CORDOVA, CA		
Jan 14, 2011 10:32 AM	At local FedEx facility	RANCHO CORDOVA, CA		
Jan 14, 2011 8:33 AM	At dest sort facility	SACRAMENTO, CA		
Jan 14, 2011 3:37 AM	Departed FedEx location	MEMPHIS, TN		
Jan 13, 2011 11:24 PM	Arrived at FedEx location	MEMPHIS, TN	*	
Jan 13, 2011 8:34 PM	Left FedEx origin facility	MENANDS, NY		
Jan 13, 2011 6:05 PM	Picked up	MENANDS, NY		•

	Express US Airbill	8739	6577	0185	fojin Austr
1	From Please Irint and gress hard. Date ///3/// Sender's FedEx Account Number)B36±4	1936 was	A GHLA	4a Exp
	Sender's DOUGLAS R. ROEC		78,589	-3255	Fede Secon shipme unless
	Company AECOM, Inc. C/O	Norlin	te Cory	<i>o</i>	46 Ехр
	Address 628 5. Saratoga	St.			FedE Next b be deli Deliver
	city Cohoes s	State NY ZI	1201	Dept/Floor/Suite/Room	FedE Secon on Mo
2	Your Internal Billing Reference 60634	11-20	0		FedE Enve
3	To Recipient's M5. Martha Maier	Phone (116 , 933	1520 1 40	6 Spe
	company Vista Analytical C	Sborat	ories, E	DIC.	No S Packag obtaini
	Address 1104 Windfield		FedE	LD Weekday Extocation address UIRED. NOT available for Ex first Oventight.	Does to
	We cannot deliver to P.O. boxes or P.O. ZIP codes. Address Use this line for the HOLD location address or for continuation of your shipping address.	Dept/Floor/St	HO; FedB	LD Saturday x location address JIRED. Available ONLY for x Priority Overnight and x 20ay to select locations.	Dangerous go
	FR Down / Hille	tate CA ZI	0-11	32	7 Pay
					Send Acct N 1 will be

Ship on the go at mobile fedex.com.

Tap into all our FedEx* shipping tools with FedEx* Mobile.

And the second s	
	Sender's Copy
4a Express Package Service - To mest locations.	Packages up to 150 lbs.
FedEx Priority Overnight Next business morning * Fridey shipments will be delivered an Monday unless SATURDAY Delivery is sulected. FedEx Standard Overnight Next business aftermoon.* Seturday Delivery NOT available.	FedEx First Overnight Earliest next business morning delivery to select focations.*
FedEx 2Day Second business day.* Thursday shipments will be delivered on Mondoy unless SATURIDAY Delivery is selected. FedEx Express Saver Third business day.* Saturday Delivery NOT swallable.	
4b Express Freight Service "To most locations.	Packages over 150 lbs.
FedEx 1Day Freight C A.L. 1.800 Nead business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. FedEx 1Day Freight Booking No.	.332,8807
Fed Ex 2Day Freight Second business day, ** Thursday shipments will be delivered Fed Ex 3Day	y Freight dey,** Saturday Delivery NOT available,
5 Packaging *Declared value (trait \$500)	
FedEx Envelope* FedEx Pak* FedEx Box	FedEx Other Tube
6 Special Handling and Delivery Signature Options	
SATURDAY Delivery NOT available for FedEx Standard Overnight, FadEx Express Sever, or FedEx 3Day Freight.	
No Signature Required Package may be left without obtaining a signature for delivery.	Indirect Signature If no one is available at recipient's address, someone at a neighboring address may sign for dedivery. For residential deliveries only. Fee applies.
Does this shipment contain dangerous goods?	163/08/108/ DENVERIER CHITY. FEB SPORES.
One box must be checkeil. Yes As per attached Shipper's Declaration not required. Dry Ice Dry Ice, 9, U	
Dengerous goods (including dry ice) cennot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.	Cargo Aircraft Only
7 Payment Bill to:	
FordEx Acot, No.	edit Card Cash/Check
Credit Card No. Total Peckages Total Weight Total Declared Value [†]	Sept. Carba
8 /bs. s	
10ur liability is limited to \$100 unless you declare a higher value. See back for details. By using this Alrbi agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including the firmt our liability.	g terms LOL
Rev. Date 2/10 • Part #158281 • @1994-2010 FedEx • PRINTED IN U.S.A. SRY	-

AECOM Inc. of	o Norlite Corn		Air Wavhill	√n ` 9739.657	7 0185	
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gerous Goods Id	dentification					
Proper Shipp	ing Name	Class or Division	Packing	Quantity and type of pac	kadina l	Y I Authonzatio
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/ Telephone Nun	nber 1-80 0)-535-5053			х	ICAO / IAT,
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described above packaged, marke proper conditior	by the proper shi ed and labeled/pla n for transport acc	pping name, an carded, and are ording to applic	d are e in all	Dougla Project Place ar Cohoe Januar	s R. Roeck Manager nd Date s, NY ry <u>//3</u> , 2011	
	Cohoes, NY 120 Vista Analytical 1104 Windfield El Dorado Hills, Ms. Martha Maie eled and signed ended to the opera DRT DETAILS ent is within the prescribed for: non-applicable) Proper Shipp Flammable Liq (Acetone in So Count Number count Number colare that the co- described above packaged, marke proper condition	El Dorado Hills, CA 95762 Ms. Martha Maier, (916)-673-0114 eted and signed copies of this declared to the operator. ORT DETAILS ent is within the prescribed for: non-applicable) Proper Shipping Name Flammable Liquid, n.o.s. (Acetone in Solution) Handling Information I declare that all of the applicable air of Telephone Number Count Number Count Number Count Number Colare that the contents of this considescribed above by the proper shippackaged, marked and labeled/plaproper condition for transport account account account no count of the consideration of the co	Cohoes, NY 12047 Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Ms. Martha Maier, (916)-673-0114 eted and signed copies of this declaration inded to the operator. DRT DETAILS ent is within the prescribed for: non-applicable) Proper Shipping Name Class or Division (Subsidiary Risk) Flammable Liquid, n.o.s. (Acetone in Solution) Handling Information I declare that all of the applicable air transport requires Telephone Number 1-800-535-5053 Ecount Number 74984	Cohoes, NY 12047 Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Ms. Martha Maier, (916)-673-0114 eled and signed copies of this declaration inded to the operator. DRT DETAILS ent is within the prescribed for: non-applicable) Proper Shipping Name Class or Division (Subsidiary Risk) Flammable Liquid, n.o.s. (Acetone in Solution) Handling Information I declare that all of the applicable air transport requirements have repeated above by the proper shipping name, and are packaged, marked and labeled/placarded, and are in all proper condition for transport according to applicable reclare that the contents of this consignment are fully and described above by the proper shipping name, and are packaged, marked and labeled/placarded, and are in all proper condition for transport according to applicable	Page 1 of 1 Pages Shipper's Reference Number Shipper's Reference Num	Page 1 of 1 Pages Shipper's Reference Number Shipper's Reference Num



Detailed	Results

Tracking no.: 873965770196 Select time format: 12H

Delivered

Delivered Signed for by: C.WATSON

Shipment Dates

Destination

Ship date Jan 13, 2011 Delivery date Jan 14, 2011 11:42 AM

Signature Proof of Delivery

Shipment Options

Hold at FedEx Location

Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type Weight Priority Overnight 44.0 lbs/20.0 kg

Delivered to

Shipping/Receiving 60163411-200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details	
Jan 14, 2011 11:42 AM	Delivered			
Jan 14, 2011 10:45 AM	On FedEx vehicle for delivery	RANCHO CORDOVA, CA		
Jan 14, 2011 10:41 AM	At local FedEx facility	RANCHO CORDOVA, CA		
Jan 14, 2011 8:33 AM	At dest sort facility	SACRAMENTO, CA		
Jan 14, 2011 3:37 AM	Departed FedEx location	MEMPHIS, TN		
Jan 13, 2011 11:24 PM	Arrived at FedEx location	MEMPHIS, TN		
Jan 13, 2011 8:39 PM	Left FedEx origin facility	MENANDS, NY		
Jan 13, 2011 6:05 PM	Picked up	MENANDS, NY		

1	Fedex US Airbill Fracking A739 6577 0196 From Please print and press hard.	₽%, 0200 Sender's Copy
•	Date Sender's FedEx Account Number 2 13:3:6:10-1936 Not 5 En 1941	4a Express Package Service *To most locations. Packages up to 150 lbs. FedEx Priority Overnight Next business morning *Friday* Description Next business sharmon, *Saturday Deferen NOT available. Entirest next business morning for the part of the part
	Sender's DOUGLAS R. ROECK Phone (978, 589-3253	unless SATURDAY Delivery is selected. FedEx 2Day Second business day* Thursday shipmarks will be delivered on Monday. Third business day.* Thursday
	Company AECOM, INC. c/o Norlite Corp.	unless SATURDAY Delivery is selected. 4b Express Freight Service **To most locations. Packages over 150 lbs.
	Address 628 S. Szratoga St.	FedEx 1Day Freight. Next business 64x** Fridey shipments will be defined on Monday unless SATURDAY Definers is selected. FedEx (Day Freight Booking No.
	City Cohoes State NY ZIP 12047	FedEx 2Day Freight Second business day.** Thursday shipments will be delivered on Monday unless SATURION Delivery is selected. FedEx 3Day Freight Third business day.** Saturday Delivery NOT available. Packaging -Declared value (first SSD)
2	Your Internal Billing Reference 6016 3414 TTE 200	FedEx FedEx Envelope* FedEx Small Pak and FedEx Box Tube
3	To Recipient's Ms. A-USHA SCOTT Phone (800) 985-5955 × 1044	6 Special Handling and Delivery Signature Options SATURDAY Delivery NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 30ay Freight.
	Company AIR TOXICS, LTD. Address 180 Blue Ravine Road HOLD Weekday Felds location address	No Signature Required Package may be left without Someone at accipient's address may sign for delivery. Fee applies. Does this shipment contain dangerous goods?
	Address Sulf + B Address Sulf + B Use this line for the HOLD location eddress or for continuation of your shipping address.	One hax must be checked. Yes No
	city Fo/som State CA ZIP 95630	7 Payment Bill to: Sender Enter FedEx Acct. No. or Credit Card No. below.
		Sender Act No. no Credit Card No. below. Sender Recipient Third Party Credit Card Cash/Check Foder Ace No. Date Date Date Date Date Date Date Date
	Learn to pack like a pro at fedex.com/packaging Or let our pros pack for you with Fedex Office Pack & Ship.	Total Packages Total Weight Total Declared Value los. \$

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AECOM Environment

Equipment Calibration Data (January 2011 Test)



NOZZLE CALIBRATION FORM

Client:	Norlite Corp.		Project #:	60)163411, Task	200
Date:	1/10/11	Calibra	ated by:	D. Ro	egC	
N	lozzle ID#	D ₁ , in.	D ₂ , in.	D ₃ , in.	Delta D, in.	D _{avg} , in.
Ma	3-1	0222	.224	.222	.002	.223
Ma	13-2	.222	.223	.224	.002	.223
Má	13-3	.226	.227	.226	,001	. 226
M2	3-4	.195	, 195	.195	Ø	0195
<u> </u>						<u>-</u>
				•		
		~				

Where:

 $D_{1,2,3}$ = Nozzle diameter measured on a different diameter to the nearest 0.001 in.

Delta D = Maximum difference between any two measurements, in.

Tolerance = 0.004 in.

 $D_{avg} = Average of D_{1,2,3}$

G:\Personal\Work\[NozzleCalibFormNorlite.xlsx]A

5

DRY GAS METER CALIBRATION

Meter Box No.:

0808030

	CI	ieck	ORE
--	----	------	-----

Annual Calibration

X

Recalibration

Date:	1/3/2011		
Operator:	Ryan Burns		
Barometric Pr	essure:	29.75	(in Hg)
Theoretical Co	itical Vacuum:	14.03	(in Hg)

 Manufacturer:
 Apex Inst.

 Date Received/Placed in service:
 2008

 Serial No.:
 0808030

Pretest Leak Checks						
Allowable Actual						
Positive	0	0.00				
(at 5 - 7 in, H ₂ O)	in. H ₂	O per min.				
Negative	0	0.00				
(at 3 in. Hg)	çfm	cfm				

		DRY	GAS METER	R DATA			CRIT	ICAL ORIF	ICE DATA			
			Volume		Ter	пр	Critical	K' Orifice	Actual	Ambi	ent Tempe	rature
ΔH	Time	Initial	Final	Total	Initiat	Final	Orifice	Calibration	Vacuum	Initial	Final	Average
(in H ₂ O)	(min)	(ft ³)	(ft³)	(ft³)	°F	۰۶	Serial#	Coefficient	(in Hg)	٩°	٥F	°F
0.29	20	650.200	656.250	6.050	70	72	40	0.225	15	65	65	65
0.98	15	661.000	669.559	8.559	73	76	52	0.427	15	65	65	65
1.70	15	689.000	700.414	11.414	81	82	63	0.562	15	65	65	65
3.80	10	710.400	721.737	11.337	83	85	76	0.831	15	65	65	65

CORRECTE	VOLUME
Dry Gas	Critical
Meter	Orifice
Vm (std ft ³)	Vcr (std ft ³)
5.984	5.848
8.424	8.316
11.108	10.947
11.039	10.788

DRY GAS METER					
CALIBRATION					
FACTO	RY				
0.977	-0.004				
0.987	0.01				
0.986	0.00				
0.977	0.00				
}					

DRY GAS METER					
CALIBRA	ATION				
FACTOR	ΔΗ@				
1.908	0.075				
1.793	-0.040				
1.795	-0.038				
1.837	0.00				

Avg. Y 0.982

Avg. AH@ 1.833

Notes:

- 1) For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.
- $2) The \ Critical \ Orifice \ Coefficient, \ K', \ must be entered in English units, \{ft\}^3 "(deg \ R)^0.5 / (\{ln.Hg)^*(min)\}.$
- 3) The minimum number of sample volume required per orifice is 5 cubic feet.
- 4) For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is ±0.02
- 5) For Orifice Calibration Factor ΔH@, the orifice differential pressure in inches of H₂0 that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg,

acceptable tolerance of individual values from the average is \pm 0.2.

Dry Gas Meter Thermocouple Calibration								
Ref. TC ID# 2131035 Inlet ID# : 0808030-IN Outlet ID# :								
Ref. Source	Ref, °F	°F	Δ	°F	Δ			
Amb. Air	65	65	0					
Hot Water	111	111	0					

Potentiometer Calibration								
Low	50 °F	50						
Mid	450 °F	449						
High	950 °F	950						

Notes:

- 1) Hot Water to be in the range of 104 122 °F.
- 2) Tolerance allowed for all thermocouple Individual readings : \pm 5.4 $^{\circ}\text{F}$
- 3) Tolerance allowed for all potentiometer individual readings : $\pm\,2\,^{\circ}F$

$$V_{m(nt)} = 17.64 \left(V_m \right) \frac{P_b + \frac{\Delta H}{13.6}}{I_m + 460}$$

$$V_{cr(sd)} = K' \frac{P_b \theta}{\sqrt{l_{anh} + 460}}$$

$$Y = \frac{V_{cr(sid)}}{V_{m(sid)}}$$

$$\Delta H_{ig} = \Delta H \left(\frac{.75\theta}{V_{cr(gd)}} \right)^2$$

A=COM

DRY GAS METER ANNUAL CALIBRATION - VOST / M6

Meter Box No.:

in. Hg

V014

Operator:

Ryan Burns

Date:

05-Jan-1 i

Barometric Pressure:

29.46

Wet Test Meter

Calibration Coefficient: Manufacturer:

1.0066

Date Received/Placed in service:

Serial No.:

Pretest Leak Check ;							
Allowed Actual							
Negative	< 0.02	0.00					
(at 10 in. Hg)	Lpm	Lpm					

INITIAL CALIBRATION:

Q

Vw

Vd

Tw

Tdi

Tdo

Tm

Dm

γ

Meter	Vo	lume		Meter Temp	erature Read	dings		Press.	Calib.
Flow	Wet	Dry	Wet	MEAN CH	Dry Meter		Time	Wet	Coeff.
Rate	Meter	Meter	Meter	In	Out	Avg] φ	Meter	γ
(Lpm)	(L)	(L)	(°C)	(°C)	(°C)	(°C)	(min.)	(in. H ₂ O)	<u></u>
1.0	20.97	20.00	17.5	n/a	20.0	20.0	20.00	1.7	1.0690
1.0	20.75	20.58	17.5	n/a	24.0	24.0	20.00	1.7	1.0420
1.0	20.36	19.58	17.5	n/a	20.5	20.5	20.00	1.7	1.0620
								AVG:	1.0577

POST-TEST CHECK:

		or reer emberr.	 	
		N/A	 	#DIV/0!
		N/A		#DIV/0!
Date:	Pb =	in. Hg	 AVG:	#DIV/0!

Ratio of reading of wet test meter to dry test meter (dimensionless); Tolerance for individual values is ± 0.02 from the average.

Deviation = #DIV/0					
(Post-Test to Initial)					
Tolerance = ±5 % of Initial Y					

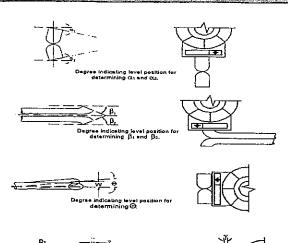
Potentiometer Calibration:					
Low	0° F	0			
Mid	450° F	450			
High	950° F	950			
100					

Dry Gas Meter Thermocouple Calibration							
		TC ID#: TC I		TC ID#:			
Ref	Ref, ° F	Temp., ° F	Δ	Temp., ° F	Δ		
Amb. Air	66	67	1				
Hot Water	110	110	0				

Note: Hot water to be in the range of 104-122 °F Tolerance allowed for all individual readings: ± 5.4 °F

							The	rmoc	ouple	Calib	ratio	n	5.1				
PR	ROBE ID:	Reference Thermometer ID #:	Omega HH-81			Omega Cl1000, #06022200				Omega Cl1000, #06022200							
M	15-5-G				Ico Bath					Boiling Water				Tube	Furnace (300° - 5	500°F)	
		Personal Ed	Province FC	Relative IC VX	tere:	SC Samp	Difference 2	folegoca 10 10	Atlentica	FG Temp	TC Tery	Pero Ofference	Selectors To	Reference 10	THIS	To the second	Tengs Enflysered 1155
	12/30/2010		32	273	33	274	1	212	373	210	372	-0.3	450	505	448	504	-0.2
		M5-5-G	32	273	33	274	1	212	373	210	372	-0.3	450	505	448	504	-0.2
	65		32	273	33	274	1	212	373	210	372	-0.3	450	505	449	505	-0.1
	29.87	Average	32	273	33	274	1	212	373	210	372	-0.3	450	505	448	504	-0.2
	PF	imperature 55 ;	PROBE ID: Reference Thermometer ID #: M5-5-G : 12/30/2010 M5-5-G M5-5-G	PROBE ID: Reference Thermometer ID #: Pressure 20 #: 12/30/2010 32 M5-5-G 32 more value = 65 32 Thermometer ID #: 12/30/2010 32 M5-5-G M5-5-G M5-5	PROBE ID: Reference Thermometer ID #: M5-5-G 12/30/2010 32 273 M5-5-G 32 273 Proposition 5 32 273 Proposition 7 32 273	PROBE ID: Reference Themoneter ID #: Lo Bath M5-5-G 12/30/2010 M5-5-G 32 273 33 M5-5-G 32 273 33 M5-5-G 32 273 33	PROBE ID: Reference Thannorester ID #: to Bath M5-5-G 12/30/2010 M5-5-G M5-5-G 32 273 33 274 M5-5-G 32 273 33 274	PROBE ID: Reference Themoreter ID #: Los Bath M5-5-G 12/30/2010 32 273 33 274 1 M5-5-G 32 273 33 274 1 M5-5-G 32 273 33 274 1	PROBE ID: Reference Themoreter ID #: Lo Bath M5-5-G 12/30/2010 M5-5-G M5-5-G M5-5-G 32 273 33 274 1 212 M5-5-G 32 273 33 274 1 212	PROBE ID: Reference Themoreter ID #: Comega HH-81 Omega M5-5-G 12/30/2010 32 273 33 274 1 212 373 M5-5-G 32 273 33 274 1 212 373 32 273 33 274 1 212 373	PROBE ID: Reference Themorreter ID #: Lo Bath Description Description	PROBE ID: Reference Themseneter ID #:	PROBE ID: Reference Themometer ID #:	PROBE ID: Reference Themsereter 10 #. Lo Bath	PROBE ID: Reference Themmoneter ID #: Comega HH-81 Omega C1000, #06022200 Omega HH-81 Omega C1000, #06022200 Omega HH-81 Tune Themmoneter ID #: Tune Themmoneter	PROBE ID: Reference Themoenter 10 #. M5-5-G Reference Themoenter 10 #. 12/30/2010 32 273 33 274 1 212 373 210 372 -0.3 450 505 448 15 15 15 15 15 15 15 15 15 15 15 15 15	PROBE ID: Reference Themsometer ID #

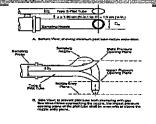
Type "S" Pitot Tube Calibration:

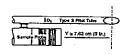


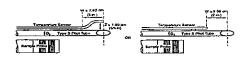
determining y then calculate Z.

Level and Perpendicular	Yes
Obstruction	No
Damaged	No
$\alpha_1 \{-10^{\circ} \le \alpha_1 \le + 10^{\circ}\}$	1
α_2 (-10° $\leq \alpha_2 \leq +10^\circ$)	0
$\beta_1 (-5^\circ \le \beta_1 \le +5^\circ)$	1
$\beta_2 (-5^\circ \le \beta_2 \le +5^\circ)$	0
γ	0
Θ	0
z = A Tan γ (± ≤ 0.125*)	0.000
W = A Tan⊖ (±≤ 0.03125")	0.000
D_t (3/16 $\leq D_t \leq 3/6$ ")	0.375
A	0.912
$A/2D_1$ (1.05 $\leq P_A/D_1 \leq 1.5$)	1.216

Pitot Tube to Nozzle Calibration:







	9 S S S S S S S S S S S S S S S S S S S	Pitor Tabe to Hozzle Califo	TALON.	
1) Pitot to nozzle separation	x	>3/4" (w/.500 nozzie)	0,797	
2) Thermocouple to pilot separ	2	>3/4*	1,506	
3) Pitat end to probe union dis	Y	>3.0"	3.130	

Probe Information

l e e e e e e e e e e e e e e e e e e e				
Manufacturer:	Apex			
Date Received and placed in Service:	pre-1995			
Condition of Probe when placed in service:	NEW USED	RECONDITIONED (circle one)		
QA/QC Check				
Completeness _X_ Legibility	_x	AccuracyX	SpecificationsX	ReasonablenessX_
I certify that the Type S pitot tube/probe ID: criteria and/or applicable design features a		meets or exceeds all Specifications, at tube calibration factor C ₅ of 0.84		
Certified by: Ryan Burns 1-26-10			rns 1-29-10	

ev 06/PS

EPA/600/R-94/038c, September 1994

NOTES:



XAD Thermocouple Calibrations

Date: 1-12-10

Calibrator: Jarrod Hendley

BP: 29.93

Ambient Temp (F): 67

Reference Thermometer ID#:

HH-81

Manufacture:

Omega

Date placed in Service:

Pre 1980

		Ice Bath			Ambient	
Thermocouple ID#	Reference Temp	XAD Temp	Temp Difference Tol = +- 2 F	Reference Temp	XAD Temp	Temp Difference Tol = +- 2 F
XAD-1	32	. 33	1	66	67	
XAD-2	32	33	1	66	67	1 ·
XAD-3	32	32	0	66	67	1
XAD-4	32	33	1	66	66	0
XAD-5			0			0
XAD-6	32	3 3	1	66	68	2
XAD-7			0			0
XAD-8	32	33	1	66	67	1
XAD-9	32	32	0	65	65	0
XAD-10	32	33	1	66	67	1
XAD-11	32	33	1	. 66	68	2
XAD-12	32	32	0 :	66	67	1

AECOM

Calibrator: Jarrod Hendley

Reference Thermometer:

HH-81

			Filter Box 0	alibratio	on			
Hot Box	x #1		Hot Bo	x #2		Hot Bo	c #3	
Manufacturer:	Andersor	NUTECH	Manufacturer:	Anderson	NUTECH	Manufacturer:	Anderson	NUTECH
Serial No.:	N/A		Serial No.:	N/A	· · · · · · · · · ·	Serial No.:	N/A	
Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	
Calibration Date:	5-Ja	n-10	Calibration Date:			Calibration Date:	30-D	ec-09
	Ambient	Hot		Ambient	Hot		Ambient	Hot
Reference Temperatures	69	252	Reference Temperatures	72	255	Reference Temperatures	69	249
Actual Temperatures Temp Difference (tol. = +-2)	68	250	Actual Temperatures	71	254	Actual Temperatures	68	248
	1 1	2	Temp Difference (tol. = +-2)	1 1	11	Temp Difference (tof. = +-2)	1 1	1
Hot Box			Hot Bo			Hot Box		
Manufacturer:		NUTECH	Manufacturer:		NUTECH	Manufacturer:	Anderson	NUTECH
Serial No.:	N/A		Serial No.:	N/A		Serial No.:	N/A	
Date received/placed in service;	Pre 1995		Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	
Calibration Date:		n-10	Calibration Date:	5-Ja	ın-10	Calibration Date:		
<u> </u>	Ambient	Hot	_	Ambient	Hot		Ambient	Hot
Reference Temperatures	67	245	Reference Temperatures	69	252	Reference Temperatures		
Actual Temperatures	67	245	Actual Temperatures	67	250	Actual Temperatures		
Temp Difference (tol. ≈ +-2)	0	0	Temp Difference (tol. = +-2)	2	2	Temp Difference (tol. = +-2)	0	0
Hot Box	(#7		Hot Bo	x #8		Hot Box	(#9.3	
Manufacturer:	Anderson	NUTECH	Manufacturer:	Anderson	NUTECH	Manufacturer	Anderson	NUTECH 22
Serial No.:	N/A		Serial No.:	N/A		Senal No. 10 A 2004	N/A	
Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	•	Date received/placed in service:	Pre 1995	4.00
Calibration Date:	29-D	ec-09	Calibration Date:		ın-10	Calibration Date:		n-10
	Ambient	Hot		Ambient	Hot		Ambient	Mar Hot
Reference Temperatures	68	248	Reference Temperatures	70	245	Reference Temperatures	34.05	250
Actual Temperatures	69	247	Actual Temperatures	70	244	Actual Temperatures	vA	248
Temp Difference (tal. = +-2)	-1	1	Temp Difference (tol. = +-2)	0	1	Temp Difference (tol = +-2)	1	
Hot Box			Hot Box		·	Hot Box	Manual T	2 (24.24.24.20.20.25
Manufacturer:		NUTECH	<u> </u>		AUSTECH			MUTEOU
Serial No.:	N/A	NUTEUM	Manufacturer:		NUTECH	Manufacturer:	Anderson	NUTECH
Date received/placed in service:	Pre 1995		Serial No.: Date received/placed in service:	N/A		Serial No.;	N/A	
Calibration Date:		ın-10	Calibration Date:	Pre 1995		Date received/placed in service: Calibration Date:	Pre 1995	
	Ambient	Hot	Calibration Date.	Ambient	Hot	Cambration Date:	A	11-4
Reference Temperatures	68	248	Beforence Termomituses	Amblent	not		Ambient	Hot
Actual Temperatures	69		Reference Temperatures			Reference Temperatures		
Temp Difference (tol. = +-2)	1	248 0	Actual Temperatures			Actual Temperatures		
	L	U	Temp Difference (tol. = +-2)	0	. 0	Temp Difference (tol. = +-2)	0	0
	#13	<u></u>	Hot Box	#14		Hot Box	#15	
Hot Box					MUTEOU	Manufacturer:		
Manufacturer:	Anderson	NUTECH	Manufacturer:	Angerson	NUILCH	The state of the s		NUTECH
Manufacturer: Serial No.:	Anderson N/A	NUTECH	Serial No.:	N/A	NOTECH	Serial No.:	N/A	NUTECH
Manufacturer: Serial No.; Date received/placed in service:	Anderson N/A Pre 1995		Serial No.: Date received/placed in service:	N/A Pre 1995		Serial No.: Date received/placed in service:		NUTECH
Manufacturer: Serial No.:	Anderson N/A Pre 1995 5-Ja	n-10	Serial No.:	N/A Pre 1995 5-Ja	n-10	Serial No.:	N/A Pre 1995	
Manufacturer: Serial No.: Date received/placed in service: Calibration Date:	Anderson N/A Pre 1995 5-Ja Amblent	n-10 Hot	Serial No.: Date received/placed in service: Calibration Date:	N/A Pre 1995 5-Ja Ambient	n-10 Hot	Serial No.: Date received/placed in service: Calibration Date:	N/A	NUTECH Hot
Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures	Anderson N/A Pre 1995 5-Ja Amblent	n-10 Hot 241	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures	N/A Pre 1995 5-Ja Ambient 67	n-10 Hot 244	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures	N/A Pre 1995	
Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures	Anderson N/A Pre 1995 5-Ja Ambient 69	n-10 Hot 241 243	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures	N/A Pre 1995 5-Ja Ambient 67 68	n-10 Hot 244 245	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures	N/A Pre 1995	
Manufacturer: Senai No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2)	Anderson N/A Pre 1995 5-Ja Ambient 69 68	n-10 Hot 241	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2)	N/A Pre 1995 5-Ja Ambient 67 68 -1	n-10 Hot 244	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures	N/A Pre 1995	
Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures	Anderson N/A Pre 1995 5-Ja Ambient 69 68	n-10 Hot 241 243	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures	N/A Pre 1995 5-Ja Ambient 67 68 -1	n-10 Hot 244 245	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures	Ambient 0	Hot
Manufacturer: Senal No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer:	Anderson N/A Pre 1995 5-Ja Ambient 69 68 1 #16 Anderson	n-10 Hot 241 243 -2	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer:	N/A Pre 1995 5-Ja Ambient 67 68 -1	n-10 Hot 244 245	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2)	Ambient 0	Hot 0
Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.:	Anderson N/A Pre 1995 5-Ja Ambient 69 68 1 #16 Anderson N/A	n-10 Hot 241 243 -2	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Manufacturer: Serial No.:	N/A Pre 1995 5-Ja Ambient 67 68 -1 #17 Anderson N/A	n-10 Hot 244 245 -1	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.:	Ambient 0 #18 Anderson	Hot 0
Manufacturer: Senai No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service:	Anderson N/A Pre 1995 5-Jal Amblent 69 68 1 #16 Anderson N/A Pre 1995	n-10 Hot 241 243 -2 NUTECH	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service:	N/A Pre 1995 5-Ja Ambient 67 68 -1 #17 Anderson N/A Pre 1995	n-10 Hot 244 245 -1 NUTECH	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service:	N/A Pre 1995 Ambient 0 #18 Anderson	Hot 0
Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.:	Anderson N/A Pre 1995 5-Ja Amblent 69 68 1 #16 Anderson N/A Pre 1995 29-De	n-10 Hot 241 243 -2 NUTECH	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Manufacturer: Serial No.:	N/A Pre 1995 5-Ja Ambient 67 68 -1 #17 Anderson N/A Pre 1995 29-De	n-10 Hot 244 245 -1 NUTECH	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.:	N/A Pre 1995 Ambient 0 #18 Anderson N/A Pre 1995	Hot 0 NUTECH
Manufacturer: Senai No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date:	Anderson N/A Pre 1995 5-Jai Ambient 69 68 1 #16 Anderson N/A Pre 1995 29-De Ambient	n-10 Hot 241 243 -2 NUTECH	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date;	N/A Pre 1995 5-Ja Ambient 67 68 -1 #17 Anderson N/A Pre 1995 29-Di Ambient	n-10 Hot 244 245 -1 NUTECH ec-09 Hot	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date:	Ambient 0 #18 Anderson	Hot 0
Manufacturer: Seriai No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures	Anderson N/A Pre 1995 5-Ja Amblent 69 68 1 #16 Anderson N/A Pre 1995 29-De Ambient 65	n-10 Hot 241 243 -2 NUTECH ec-09 Hot 246	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date; Reference Temperatures	N/A Pre 1995 5-Ja Ambient 67 68 -1 #17 Anderson N/A Pre 1995 29-De Ambient 65	n-10 Hot 244 245 -1 NUTECH ec-09 Hot 246	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures	N/A Pre 1995 Ambient 0 #18 Anderson N/A Pre 1995	Hot 0 NUTECH
Manufacturer: Seriai No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures	Anderson N/A Pre 1995 5-Ja Amblent 69 68 1 1 #16 Anderson N/A Pre 1995 29-De Amblent 65 64	n-10 Hot 241 243 -2 NUTECH ec-09 Hot 246 245	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures	N/A Pre 1995 5-Ja Ambient 67 68 -1 #17 Anderson N/A Pre 1995 29-Di Ambient 65 65	n-10 Hot 244 245 -1 NUTECH ec-09 Hot 246 245	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures	N/A Pre 1995 Ambient 0 #18 Anderson N/A Pre 1995 Ambient	Hot 0 NUTECH Hot
Manufacturer: Seriai No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Actual Temperatures Actual Temperatures Temp Difference (tol. = +-2)	Anderson N/A Pre 1995 5-Jal Ambient 69 68 1 #16 Anderson N/A Pre 1995 29-De Ambient 65 64 1	n-10 Hot 241 243 -2 NUTECH ec-09 Hot 246	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2)	N/A Pre 1995 5-Ja Ambient 67 68 -1 #17 Anderson N/A Pre 1995 29-Do Ambient 65 65 0	n-10 Hot 244 245 -1 NUTECH ec-09 Hot 246	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Actual Temperatures Temp Difference (tol. = +-2)	N/A Pre 1995 Ambient 0 #18 Anderson N/A Pre 1995 Ambient 0 0	Hot 0 NUTECH
Manufacturer: Senai No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Actual Temperatures Actual Temperatures Actual Temperatures Actual Temperatures Temp Difference (tol. = +-2)	Anderson N/A Pre 1995 5-Ja Ambient 69 68 1 #16 Anderson N/A Pre 1995 29-De Ambient 65 64 1	n-10 Hot 241 243 -2 NUTECH ec-09 Hot 246 246 -2	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box	N/A Pre 1995 5-Ja Ambient 67 68 -1 #17 Anderson N/A Pre 1995 29-De Ambient 65 65 0 #20	n-10 Hot 244 245 -1 NUTECH ec-09 Hot 246 245 1	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box	N/A Pre 1995 Ambient 0 #18 Anderson N/A Pre 1995 Ambient 0 #21	Hot 0 NUTECH Hot
Manufacturer: Seriai No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer:	Anderson N/A 1995 5-Jai Amblent 69 68 1 #16 Anderson N/A Pre 1995 Amblent 65 64 1 #19 Anderson	n-10 Hot 241 243 -2 NUTECH ec-09 Hot 246 246 -2	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer:	N/A Pre 1995	n-10 Hot 244 245 -1 NUTECH ec-09 Hot 246 245	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer:	N/A Pre 1995 Ambient 0 #18 Anderson N/A Pre 1995 Ambient 0 #21 Anderson	Hot 0 NUTECH Hot
Manufacturer: Seriai No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Actual Temperatures Hot Box Manufacturer: Serial No.: Manufacturer: Serial No.:	Anderson N/A Pre 1995 5-Ja Amblent 69 68 1 1 #16 Anderson N/A Pre 1995 29-De Amblent 65 64 1 #19 Anderson N/A	n-10 Hot 241 243 -2 NUTECH ec-09 Hot 246 246 -2	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date; Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.:	N/A Pre 1995 5-Ja Ambient 67 68 -1 #17 Anderson N/A Pre 1995 29-Di Ambient 65 65 0 #20 Anderson	n-10 Hot 244 245 -1 NUTECH ec-09 Hot 246 245 1	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.:	N/A Pre 1995 Ambient 0 #18 Anderson N/A Pre 1995 Ambient 0 #21 Anderson N/A	Hot 0 NUTECH Hot
Manufacturer: Senai No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Actual Temperatures Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date:	Anderson N/A Pre 1995 5-Jal Amblent 69 68 1 1 #16 Anderson N/A Pre 1995 29-De Amblent 65 64 1 #19 Anderson N/A Pre 1995	n-10 Hot 241 243 -2 NUTECH ec-09 Hot 246 245 -2 NUTECH	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Actual Temperatures Hot Box Manufacturer: Serial No.: Date received/placed in service: Date received/placed in service:	N/A Pre 1995	n-10 Hot 244 245 -1 NUTECH ec-09 Hot 246 245 1	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service:	N/A Pre 1995 Ambient 0 #18 Anderson N/A Pre 1995 Ambient 0 #21 Anderson	Hot 0 NUTECH Hot
Manufacturer: Seriai No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Actual Temperatures Hot Box Manufacturer: Serial No.: Manufacturer: Serial No.:	Anderson N/A Pre 1995 5-Jal Ambient 69 68 1 #16 Anderson N/A Pre 1995 29-De Ambient 65 64 1 #19 Anderson N/A Pre 1995 5-Jal	n-10 Hot 241 243 -2 NUTECH ec-09 Hot 246 246 -2 NUTECH	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date; Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.:	N/A Pre 1995 5-Ja Ambient 67 68 -1 #17 Anderson N/A Pre 1995 29-De Ambient 65 65 0 #20 Anderson N/A Pre 1995	n-10 Hot 244 245 -1 NUTECH ec-09 Hot 246 245 1	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.:	N/A Pre 1995 Ambient 0 #18 Anderson N/A Pre 1995 Ambient 0 #21 Anderson N/A Pre 1995	Hot 0 NUTECH Hot 0 NUTECH
Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date; Reference Temperatures Actual Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date:	Anderson N/A Pre 1995 5-Jai Amblent 69 68 1 #16 Anderson N/A Pre 1995 64 1 #19 Anderson N/A Amblent 65 64 1 #19 Anderson N/A Anderson N/A Amblent Anderson N/A Anderson Anderso	n-10 Hot 241 243 -2 NUTECH ec-09 Hot 246 245 -2 NUTECH n-10 Hot	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date:	N/A Pre 1995 5-Ja Ambient 67 68 -1 #17 Anderson N/A Pre 1995 29-Di Ambient 65 65 0 #20 Anderson	n-10 Hot 244 245 -1 NUTECH ec-09 Hot 246 245 1	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date:	N/A Pre 1995 Ambient 0 #18 Anderson N/A Pre 1995 Ambient 0 #21 Anderson N/A	Hot 0 NUTECH Hot
Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Actual Temperatures Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Calibration Date: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures	Anderson N/A Pre 1995 5-Jal Ambient 69 68 1 1 #16 Anderson N/A Pre 1995 29-De Ambient 65 64 1 #19 Anderson N/A Pre 1995 5-Jal Ambient 67	n-10 Hot 241 243 -2 NUTECH ec-09 Hot 246 245 -2 NUTECH n-10 Hot 244	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date; Reference Temperatures Actual Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures	N/A Pre 1995 5-Ja Ambient 67 68 -1 #17 Anderson N/A Pre 1995 29-De Ambient 65 65 0 #20 Anderson N/A Pre 1995	n-10 Hot 244 245 -1 NUTECH ec-09 Hot 246 245 1	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures	N/A Pre 1995 Ambient 0 #18 Anderson N/A Pre 1995 Ambient 0 #21 Anderson N/A Pre 1995	Hot 0 NUTECH Hot D
Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Actual Temperatures Actual Temperatures Actual Temperatures Actual Temperatures Temp Difference (tol. = +-2) Manufacturer: Serial No.: Date received/placed in service: Calibration Date:	Anderson N/A Pre 1995 5-Jai Amblent 69 68 1 #16 Anderson N/A Pre 1995 64 1 #19 Anderson N/A Amblent 65 64 1 #19 Anderson N/A Anderson N/A Amblent Anderson N/A Anderson Anderso	n-10 Hot 241 243 -2 NUTECH ec-09 Hot 246 245 -2 NUTECH n-10 Hot	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date:	N/A Pre 1995 5-Ja Ambient 67 68 -1 #17 Anderson N/A Pre 1995 29-De Ambient 65 65 0 #20 Anderson N/A Pre 1995	n-10 Hot 244 245 -1 NUTECH ec-09 Hot 246 245 1	Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures Actual Temperatures Temp Difference (tol. = +-2) Hot Box Manufacturer: Serial No.: Date received/placed in service: Calibration Date:	N/A Pre 1995 Ambient 0 #18 Anderson N/A Pre 1995 Ambient 0 #21 Anderson N/A Pre 1995	Hot 0 NUTECH Hot D



BAROMETER CALIBRATION DATA FORM

Serial No. 51111291

Reference Barometer ID #:

Serial No. 188841

Pre-Test Calibration data

Calibration	Performed By:	
	CHOHIEU DV.	

Ryan Burns

Date	Reference Barometer in. Hg	Field Barometer in. Hg	Accuracy in. Hg
14-Jan-10	29.93	29.93	≤ +/- 0.10 in. Hg

Post-Test Calibration data

Calibration Performed By:

Date	Reference Barometer in. Hg	Field Barometer in. Hg	Accuracy in. Hg	
			≤ +/- 0.10 in. Hg	

Note: The field barometer is adjusted to agree with the reference barometer after each calibration. The reference barometer is checked and re-calibrated by the vendor on an annual basis.



Airgas Specialty Gases

600 Union Landing Road Riverton, NJ 08077 (856) 829-7878 Fax (856) 829-0571 www.alrgas.com

Part Number:

E02NI79E15AC667

Reference Number: 82-124136886-1

Cylinder Number:

XC032961B

Laboratory:

ASG - Riverton - NJ

Cylinder Volume:

146 Cu.Ft. 2015 PSIG

Analysis Date:

May 07, 2008

Cylinder Pressure:

Valve Outlet:

590

Expiration Date: May 07, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted. Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS Total Relative Actual Protocol Requested Component Uncertainity Method Concentration Concentration +/- 1% NIST Traceable 20.54 % OXYGEN. Balarice NITROGEN

			CALIBRATION STANDARDS	
Туре	Lot ID	Cylinder No	Concentration	Expiration Date
NTRMplus	06060808	CC206113	22.51% OXYGEN/NITROGEN	May 01, 2010
****	-		ANALYTICAL EQUIPMENT	
Inetrument	Make/Model	•	Analytical Principle	Last Multipoint Calibration
Siemens 5E			Paramagnetic	May 05, 2008

Triad Data Available Upon Request

Notes:

QA Approval

Page 1 of 82-124136886-1



Airgas Specialty Gases

600 Union Lending Road Riverton, NJ 08077 (856) 829-7878 Fax (856) 829-0571 www.airgas.com

Part Number:

E03NI80E15A0007

Cylinder Number:

CC55093

ASG - Riverton - NJ

Cylinder Volume:

150 Cu.Ft.

Laboratory:

Cylinder Pressure:

2015 PSIG

Analysis Date:

Nov 18, 2008

Valve Outlet:

590

Reference Number: 82-124158592-1

Expiration Date: Nov 18, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.

Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

TACOULD COUNTY FOR THE PROPERTY OF THE PROPERT	ACUAIN PRODUCT OF THE
A STATE OF THE PROPERTY OF THE	Longeritation and a second of the control of the co
	OG/190/2007 The agent of the control
	ENDING TO THE REPORT OF THE PARTY OF THE PAR
	表现,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一个人,我们就是一

			CALIBRATION STANDARDS	
Туре	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM	01119418	CC14317	9.72% OXYGEN/NITROGEN	Jul 05, 2010
NTRM	99061107	XC018958B	4.811% CARBON DIOXIDE/NITROGEN	May 15, 2012
	•		ANALYTICAL EQUIPMENT	
Instrume	nt/Make/Model		Analytical Principle	Last Multipoint Calibration
Siemens l	Utramat 6E N1-N)-0820	NOIR	Oct 20, 2008
Siemens 5	E BN805		Paramagnetic	Oct 30, 2008

Triad Data Available Upon Request

QA Approval

Page 1 of 82-124158592-1



Airgas Specialty Gases

600 Union Landing Road Rivarton, NJ 08077 (856) 829-7878 Fax (856) 829-0571 www.airgas.com

Part Number: Cylinder Number:

Laboratory:

Analysis Date:

E03NI67E15AC377

CC14688

ASG - Riverton - NJ

Cylinder Volume: Cylinder Pressure: 157 Cu.Ft.

2015 PSIG

Reference Number: 82-124129265-1

Mar 14, 2008

Valve Outlet:

590

Expiration Date: Mar 14, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.

Do Not Use This Cylinder below 150 psig.l.e. 1.Mega Pascal

ANALYTICAL RESULTS								
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainity				
OXYGEN	14.50 %	14.49 %	G1	+/- 1% NIST Traceable				
CARBON DIOXIDE	18,00 %	17.99 %	G1:	+/- 1% NIST Traceable	d.			
NITROGEN	Balance	e viena se marie de la composición de la composición de la composición de la composición de la composición de La composición de la composición de la composición de la composición de la composición de la composición de la		and the second of the second o				

CALIBRATION STANDARDS							
Туре	Lot ID	Cylinder No	Concentration	Expiration Date			
NTRM	03060203	XC024381B	22.60% OXYGEN/NITROGEN	Jul 01, 2011			
NTRMplus 04060443 XC034294B		XC034294B	19.84% CARBON DIOXIDE/NITROGEN	May 15, 2008			
		. ,	ANALYTICAL EQUIPMENT	-			
Instrument/	Make/Model		Analytical Principle	Last Multipoint Calibration			
Siemens Ultre	mat 6E N1-N0-08	20	NDIR	Feb 18, 2008			
Siemens 5E E			Paramagnetic	Mar 05, 2008			

Triad Data Available Upon Request

Notes

QA Approval

Page 1 of 82-124129265-1



TWINSBURG, OH

EPA PROTO	OCOL GAS ANALYSI	S CYL NUMBER: SX-34679
COMPONENT NAME	MEAN CONCENTRATION .	LAB REFERENCE #:
Propane	25.1 PPM ± 1% REL	LOT NUMBER: 109-96-14404
7		SIZE: 1R CGA: 590
		Volume: 141 cuft
		Pressure: 2000 psig @ 70F
		This mixture has been analyzed according to EPA Traceability
		Protocol for Assay and
Balance Gas: Air		Certification of Gaseous
PROCEDURE:G1	ASSAY DATE: 9/10/0	 Calibration Standards revised
11.00200112.01	EXPIRATION DATE: 9/10/1	
		2-Phis D. m.t.
	re should not be used	analysts name
when the pressur	e falls below 150 psig. In	nformation continu ed on o ther side of this tag
MPONENT NAME ODANA	MEAN CONCENTRATION 45.5 PPM ± 1% REL	LAB REFERENCE #: LOT NUMBER: 109-96-11119
		SIZE: 1R CGA: 590
		Volume: 141 cuft Pressure: 2000 psig @ 70F
		This mixture has been analyzed according to EPA Traceability
		Protocol for Assay and
alance Gas: Air		Certification of Gaseous
ROCEDURE:G1	ASSAY DATE: 3/10/09	Calibration Standards revised
	EXPIRATION DATE: 3/10/12	This Don to
	tivers to a distribution of the second	The state of the s
OTE: this mixture s		analyst's name
	Infon	mation continued on other side of this tag
	_	
	THESON	-
	GAS fra Ges Professionals* TWIN	ISBURG, OH
		
•	DCOL GAS ANALYSI	
COMPONENT NAME	MEAN CONCENTRATION	LAB REFERENCE #:
Propane	85.4 PPM ± 1% REL	LOT NUMBER: 109-96-01347
		SIZE: 1R CGA: 590
		Volume: 141 cuft
		Pressure: 2000 psig @ 70F
·		This mixture has been analyzed
		according to EPA Traceability Protocol for Assay and
Balance Gas; Air	•	Certification of Gaseous
PROCEDURE: G1	ASSAY DATE: 7/30/09	
	EXPIRATION DATE: 7/30/12	
	AND THE PROPERTY OF THE PARTY O	- 1 shall be made
	e should not be used =	analyst'ึ้ง กลme
when the pressure	falls below 150 psig. Int	formation continued on other side of this tag

AECOM Environment

Field Data Sheets (October 2010 Test)

A\(\in\)COM

		
	<u>F</u>	ield Log - MACT CPT 2010 - Norlite Corporation
Date	Time	Description of Events and Activities
10/18/10	07:15	Left Harvard for Norlite
	10:20	Checked in at Norlite to watch safety video
·		and to set up all equipment
	15:00	Meeting in Admin Bldg to review test
	2.4	coordination with all Noslite personnel
<u></u>	16:15	Meeting with Prince Knight and UGF/shale
<u> </u>	<u> </u>	sampling personnel to recriew grab sampling
<u> </u>	4.50	procedures and forms to be used.
	17200	AECOM departs site
10/19/10	06:45	AECOM Onsite
	07:15	Plant goes down - ID fan Off. Will probably
		be a couple of hours to get lined out again.
	09:45	Kiln I Pretty much at the test condition - need
		1-hr to establish HRAs
	10:58	Start C2-RI all sampling trains Pb= 29.81 Complete C2-RI - M26A & M29
<u> </u>	13:04	
	14:00	End C2-R1 M23
	14:40	Start-C2-R2 all trains
	16:45	Complete C2-R2 m26 A + m29
	17:42	End C2-R2 M23
	17:58	Start C2-R3 all sample trains End C2-R3 M26A and M29 trains
	21:00	ENG CZ-RS MACH and MIGHT
		End C2-R3 M23
	21:30	Left Site
10/20/10	07:45	AFCOM onsite 1/2 = 29.91@ ground
, , , , , , , , , , , , , , , , , , ,	08:18	M23 Train leakerhecked and ready to 90
	09:00	M23 Train leakehecked and ready to go Plant estimating 09:30 at earlies + for IHRAs to
		be established
	09:30	Start CI-RI M23
	12:32	End CI-RI M23
<u> </u>		

page __/ of _2





3

	<u>Fi</u>	eld Log - MACT CPT 2010 - Norlite Corporation
Date	Time	Description of Events and Activities
10/20/10		Start CI-RZ M23
	16:02	End CI-R2 M23
	17:00	RB, CC and JI+ offsite
	17130	RBCC and JI+ offsite DRand FS offsite
10/10/10	67.11	A.C.C. and the side
10/21/10	07:45	ARCOM onsite
		BOTH Trains real-chiefed and ready to go
	08:45	The Dollar
	12:07	End CI-R3 M23
	14:30	AECOM departs site
	14:45	All samples dragged off of Follow
	7.1-1.3	Station in Monands NY for shipment
	17:30	All samples dropped off at FedEx Station in Menands NY for shipment Arrive back at Harvard, MA location
	-1	The same of marriag, in polarion
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-		
	<u></u>	
	·	

page <u>2</u> of <u>2</u>



SOLID/LIQUID GRAB SAMPLING FIELD DATA SHEET

					ATA SHEET		
AECOM Project	et No.	60163411-200					
Client:	Norlite Corp.		Facility:		Cohoes, NY		
Stream Sample	d:	Liquid Low-Gr	ade Fuel (LLG	F)			
Sampling Locat	ion: KI Burn	er Floor					
Date:	0-19-10	Date: \	0-14-10		Date: 10	19.10	
Condition:	C2	Condition:	Ca		Condition:	СЭ	
Run No.	RI	Run No.			Run No.	R3	
Start Time:	10584	Start Time:	2:40p		Start Time:	1758	
Stop Time:	2:05 p	Stop Time:	17:42 p			2100	
. Grab	Clock	Grab	Clock		Grab	Clock	
Interval	Time	Interval	Time		Interval	Time	
(min)	(actual)	(min)	(actual)		(min)	(actual)	
0	1045 1100A	0	2410		0	1801	
15	1115A	15	7,560		15	316	
30	1130A	30	5116		30	1831	
45	1145 A	45	3260	*	45	1846 4	
60	12000	60	3410	×	60	1901. *	
75	12150 *	75	356 €	-7)	75	1916 ×	
90	12201 *	90	700		90	1931	
105	12470*	105	4260		105	1946	
120	1000	120	4410	\dashv	120	2001	
135	1160	135		*	135	2016	
150	1300	150	4560	4			
165	1450		5110		150	7031	
180	7.00e	165 180	<u>526 p</u>		165	7046	
105	Trok.		<u>541 p</u>		180	2101	
210		195	1	_	195		
		210		—[210		
225 240		225 240			225 240	·	
240		240			240		
Comments:							
			Sampled	by	Prince Knigh	<u> -</u>	
			ر سر رکھا إ	/ (/a~		
Signature of Sar	npler: (کفتر)	Mas 1	Tout	.(1	Sto	-	
			·	7			



AECOM

SOLID/LIQUID GRAB SAMPLING FIELD DATA SHEET

AECOM Projec	et No.	60163411-200	LINGTILLD		· · · · · · · · · · · · · · · · · · ·		
Client:	Norlite Corp.		Facility:	Cohoes, NY			
Stream Sample	d:	Shale					
Sampling Location: Sile Bet							
Date:	0-19-10	Date:	10.19.10	Date: \(019-10		
Condition:	C a	Condition:	<u>Ca</u>	Condition:	CL		
Run No.	RI	Run No.	<u>R</u> a	Run No.	R3		
Start Time:	10:58A	Start Time:	2:40p	Start Time:	558p		
Stop Time:	2:05p	Stop Time:	17:428	Stop Time:	9.000		
Grab	Clock	Grab	Clock	Grab	Clock		
Interval	Time	Interval	Time	Interval	Time		
	(actual)		(actual)		(actual)		
Beginning	10,58	Beginning	2:40	Beginning	5 :00		
Middle	12:30	Middle	4:16	Middle	1.30		
End	2:05	End	542	End	9:00		
Comments:							
Signature of Sar	Signature of Sampler: Thomas E. Hruch susan Walmer						



SOLID/LIQUID GRAB SAMPLING FIELD DATA SHEET

AECOM Proje	ct No.	60163411-200					
Client:	Norlite Corp.		Facility:	Cohoes, NY			
Stream Sample	d:	Shale		·			
Sampling Locat	ion: SHALE	Sico			- t - t		
Date: te	20/10	Date:	10/20/10	Date:	0410		
Condition:	<u> </u>	Condition:	CI'	Condition:	<u>'دا'</u>		
Run No.	<u>Li</u>	Run No.	RZ	Run No.	R3		
Start Time:	09:30	Start Time:	(3:00	Start Time:	09:04		
Stop Time:	1232	Stop Time:	10:02	Stop Time:	12:07		
Grab	Clock	Grab	Clock	Grab	Clock		
Interval	Time	Interval	Time	Interval	Time		
	(actual)		(actual)		(actual)		
Beginning	09:30	Beginning	13:00	Beginning	9:02		
Middle	11:00	Middle	14:38	Middle	10:30		
End	10.30	End	16:00	End	12.07		
Comments:							
	Signature of Sampler: fular (ulms)						



SOLID/LIQUID GRAB SAMPLING FIELD DATA SHEET

AECOM Project No. 60163411-200					
		3			*
Client:	Norlite Corp.		Facility:	Cohoes, NY	
Stream Sampled: Liquid Low-Grade Fuel (LLGF)					
Sampling Location: KI Burner Floor					
Date: 10.10.10		Date: 10. 20.10		Date: 10-21-10	
Condition: CV		Condition:		Condition: C1 Run No. R3	
Run No. R		Run No.	Ra	Run No.	R3
Start Time: O930 A		Start Time: \300		Start Time: 0904	
Stop Time:	1232 p	Stop Time:	1602	Stop Time:	12:07
Grab	Clock	Grab	Clock	Grab	Clock
Interval	Time	Interval-	Time	Interval	Time
(min)	(actual)	(min)	(actual)	(min)	(actual)
0	0132	0	1301	0	0907
15	0947	15	1316	15	1917
30	1007	30	122(*	30	19137
45	1017	45	1346	45	1447
60	1032 *	60	7479	60	1002 4
75	1047 *	75	14/2	75	1/1/2
90	1102	90	1431	90	1032
105	1117	105	1446 *	105	1047
120	1137	120	1501	120	1102 *
135	1147	135	1516	135	1117
150	1202	150	1531	150	1132
165	1217*	165	1540	165	1117
180	1232	180	160)	180	1570
195		195	1001	195	1.405
210		210		210	
225		225		225	
240		240		240	
Comments:					
	 	- · ·	/ 0.0	•	•
Supler collected by Kinne Kright					
Signature of Sampler: (Fin Mige					

Norlite, LLC, Conoes, New York



METHOD 2 GAS VELOCITY AND VOLUME DATA SHEET

Facilit Date :		Norlite Corp	110	s, NY Po	rt Length: Port [Diam.:	// 🔿	onorail ? or N	Platform Wi Railing Ht. :	dth large 42"
	itor(s):	_C.Cron								
	Diamete		48-in				-			
	ress. (in		29.	81		Kiln 1	Level 1 -	Stack Exhaus	<u>st</u>	
Static	Press. (in. H₂O)	+0	129				W		
Cp:	0.84	or 0.99	(Circle on	e)				-		
O ₂ (%)				ŀ		/	. ,	١	
CO ₂ (%)		··		1	٤.	1		h٧	
	ulb Tem	p. (°F) :			1	۵	4	· · · · /	<i>[</i>	
	ılb Temp				1			· : /		
_,, _,		. (1) .			1					
	-							HE		
					<u></u>	SCHE	MATIC C	OF STACK (CROSS SE	CTION
0	8:22	Port	- A							2011011
		Vel.	Stack	Flow Angle	Minis			Vel.	Stack	Flow Angle
Pt.	Pos.	DP	Temp.	that Yields		Pt.	Pos.	DP	Temp.	that Yields
#	(in.)	(in. H₂O)	(°F)	a Null DP		#	(in.)	(in. H ₂ O)	(°F)	a Null DP
6		0.81	127						****	
65 43 2		0.85	127		pë pa					
4		0.86	127							
3		0.86	128						•	
2		0.83								
	-	0.71	127		Gar Carrie					
								j		
		6,7,7					•			
							•			
	AVG	0.82	127.3				•			
	AVG									
	AVG									
	AVG									
	AVG									
	AVG									

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Method 0023	4				rs
	CPT Con	ı		iin 1	
Run No.		C1-R1	C1-R2	C1-R3	
Date		20-Oct-10	20-Oct-10	21-Oct-10	
Start Time	Units	09:30	13:00	09:04	
Stop Time		12:32	16:02	12:07	AVGS
Nozzle Diameter	inches	0.216	0.216	0.216	0.216
Barometric Pressure	in. Hg	29.81	29.81	29.40	29.67
Net Sampling Time	min.	180.0	180.0	180.0	180.0
Volume Metered	dcf	119.755	128.064	117.978	121.932
Avg. DGM Temp.	°F	61.0	71.4	60.3	64.2
Avg Delta H	in H ₂ O	1.57	1.77	1.53	1.62
Avg Delta H	in. Hg	0.1155	0.1302	0.1124	0.1194
DGM Calibration Factor		0.971	0.971	0.971	0.971
Gas Sample Volume	dscf	117.866	123.649	114.675	118.730
Total Water Collected	mL	404.7	421.4	394.3	406.8
Volume of Water Vapor	scf	19.082	19.869	18.591	19.181
Moisture (measured)	% v/v	13.9	13.8	14.0	13.9
Moisture (@ saturation)	% v/v	16.4	16.4	17.1	16.7
Dry Mole Fraction		0.8607	0.8616	0.8605	0.8609
CO₂ at Stack	% dry	4.20	4.00	4.20	4.13
O ₂ at Stack	% dry	15.60	15.90	15.40	15.63
CO + N ₂	% dry	80.20	80.10	80.40	80.23
Dry Molecular Weight	lb/lb-mole	29.30	29.28	29.29	29.29
Wet Molecular Weight	lb/lb-mole	27.72	27.71	27.71	27.72
Excess Air at Stack	%	279.9	303.1	264.4	282.4
Stack Diameter	inches	48.0	48.0	48.0	48.0
Stack Area	sq. in.	1809.6	1809.6	1809.6	1809.6
Static Pressure	in H₂O	0.35	0.33	0.15	0.28
Stack Pressure	in. Hg	29.84	29.83	29.41	29.69
Avg. Stack Temp.	°F	133.1	133.0	134.4	133.5
Avg. Sqroot of Delta P		0.9500	0.9925	0.9363	0.9596
SDE Average		23.137	24.170	22.826	23.377
Pitot Coefficient		0.84	0.84	0.84	0.84
Stack Gas Velocity	afpm	3,467	3,622	3,445	3,511
Stack Flowrate	wet acfm	43,564	45,516	43,294	44,125
Stack Flowrate	wet scfm	38,672	40,408	37,805	38,962
Stack Flowrate	dscfm	33,283	34,813	32,531	33,543
Isokinetics	%	97	97	97	97
Meter Box No.		80612	80612	80612	
Delta H @	in. Hg	1.914	1.914	1.914	
Field QA Yqc		1.010	1.012	1.018	1.013
[Deviation] Pre-Y	%	3.98%	4.27%	4.80%	4.35%

QC Date Init

MACT CPT Condition 1 - Norlite Kiln 1

		C1-R1	AVGS	· PCDDs	/ PCDFs			C1-R2	AVGS	- PCDDs	/ PCDFs		C1-R3 AVGS PCDDs / PCDFs					
PT	DP	SQRT	DGM	DGM	DH	STACK	DP	SQRT	DGM	DGM	DH	STACK	DP	SQRT	DGM	DGM	DH	STACK
		DP	IN	OUT		TEMP		DP	IN .	OUT		TEMP		DP	IN	OUT		TEMP
a1	0.88	0.9381	48	44	1.50	131	1.00	1.0000	65	65	1.80	134	0.79	0.8888	52	51	1.40	133
	0.89	0.9434	50	45	1:50	133	1.00	1.0000	70	66	1.80	134	0.86	0.9274	53	52	1.50	134
a2	0.93	0.9644	53	47	1.60	133	1.10	1.0488	73	66	2.00	133	0.90	0.9487	56	52	1.60	134
	0.99	0.9950	57	49	1.70	133	1.10	1.0488	74	67	2.00	133	0.91	0.9539	58	52	1.60	134
a3	1.00	1.0000	59	50	1.70	132	0.97	0.9849	75	67	1.70	133	0.95	0.9747	60	53	1.60	134
	0.99	0.9950	62	52	1.70	132	0.97	0.9849	75	66	1.70	133	0.88	0.9381	62	54	1.50	134
a4	0.99	0.9950	62	54	1.70	133	1.00	1.0000	76	67	1.80	133	0.94	0.9695	63	54	1.60	134
	0.99	0.9950	64	54	1.70	132	1.00	1.0000	75	68	1.80	133	0.90	0.9487	65	55	1.60	134
а5	0.93	0.9644	65	56	1.60	132	0.94	0.9695	75	67	1.70	133	0.89	0.9434	66	56	1.60	134
	0.93	0.9644	67	58	1.60	133	0.94	0.9695	74	67	1.70	133	0.91	0.9539	66	58	1.60	134
a6	0.81	0.9000	69	59	1.40	133	0.89	0.9434	74	67	1.60	133	0.77	0.8775	67	59	1.40	134
	0.82	0.9055	69	61	1.40	134	0.87	0.9327	73	67	1.50	133	0.82	0.9055	68	58	1.40	134
b1	0.95	0.9747	66	61	1.70	132	0.84	0.9165	74	67	1.50	133	0.88	0.9381	65	60	1.50	134
	0.95	0.9747	68	61	1.70	134	0.84	0.9165	75	68	1.50	132	0.87	0.9327	67	59	1.50	134
b2	0.93	0.9644	69	62	1.60	134	1.00	1.0000	76	69	1.80	132	0.88	0.9381	67	59	1.50	135
	0.87	0.9327	68	61	1.50	134	1.10	1.0488	76	70	2.00	134	0.88	0.9381	68	60	1.50	135
b3	0.86	0.9274	68	61	1.50	134	1.10	1.0488	75	69	2.00	133	0.84	0.9165	68	60	1.50	135
	0.82	0.9055	69	61	1.40	134	1.10	1.0488	75	68	2.00	133	0.83	0.9110	68	59	1.50	135
b4	0.90	0.9487	68	61	1.60	134	1.10	1.0488	77	68	2.00	133	0.90	0.9487	65	61	1.60	135
	0.91	0.9539	69	61	1.60	134	1.10	1.0488	78	69	2.00	133	0.90	0.9487	64	58	1.60	135
b5	0.89	0.9434	71	62	1.60	134	1.00	1.0000	78	71	1.80	133	0.88	0.9381	65	58	1.50	135
	0.90	0.9487	72	63	1.60	134	1.00	1.0000	78	70	1.80	133	0.92	0.9592	65	57	1.60	135
b6	0.78	0.8832	72	64	1.40	133	0.86	0.9274	78	69	1.50	133	0.87	0.9327	67	58	1.50	135
	0.78	0.8832	72	64	1.40	133	0.87	0.9327	78	70	1.50	133	0.88	0.9381	67	58	1.50	135
1,19,000	olonijanje,	hair			figles:				Digg.3							-		
AVG	0.90	0.9500	61.0		1.57	133	0.99	0.9925	71.4		1.77	133	0.88	0.9363	60.3		1.53	134

QC Date Init

AECOM EPA IS	OKINETIC S	SAMPLING .	- FIELD DATA	SHEE	Γ	[ล	
Sampling Train Method 0023A (D/F)	Barometric Pressure	29,81	I DAY GUDGUGA ANA				GER VOL'S.	L	Orsat
Run Number ONC-RIEI-Cond. 1			LEAK CHECKS in "Hg		~ ·	INIT.	FINAL	RINSE	CO2 O2
Client Norlite Corporation	Static Pressure (+/-)		INITIAL VAC. 16	in. CFM	0.01	?		LI	
Facility Location Cohoes, NY	Probe/Pitot Number		MID VAC.	in. CFM		100			
Source Kiln 1 Exhaust Stack	Pitot Coefficient	0.84	FINAL VAC.	in. CFM	<u>0.002</u>	100			
Date October 20,2010	Filter Box No.	1-113-1	+ -		+ 7	0		<u> </u>	
Operator Crowley	Meter Box No.	80612	INIT. PITOT 🗸 🗸	FINAL PITO		SG	<u> </u>		
Stack Dia in. 48	Orifice Coefficient (- 		R DATA	7				
Start Time 0930 1102	Delta H @	1,914	NUMBER	TARE	₫	<u> </u>		ļ	
10 10 U	Nozzle Size/No.	0.216			_	<u> </u>	<u> </u>		
Stop Time 1100 1232	XAD Thermocouple			<u>. </u>	J		CA GEL	Final Purg	Rate
	Lmp Outlet TC ID:	1D: 240-12 LI-Z7			J	226.7	CA GEL	Final Purg Final PH	Rate
SAMPLE GLOCK VELOCITY ORIFICE		トエースフ	EMPERATURE REA	ADINGS.	°F			1 ~	e Rate
Folias de la la la la	Imp Outlet TC ID:	トエースフ	EMPERATURE REA	ADINGS,	-	226.7	PUMP	Final PH	
SAMPLE GLOCK VELOCITY ORIFICE	Imp Outlet TC ID: GAS METER VOLUME	トエースフ	EMPERATURE REAL ORGANIC OVEN MODULE	ADINGS,	-		PUMP VACUUM	Final PH	c Rate
SAMPLE GLOCK VELOCITY ORIGICS POINT TIME HEAD METER VOI	Imp Outlet TC ID: GAS METER VOEUME	LI-Z7 T STACK PROBE	OVEN MODULE	IMPINGER	GAS IN	226.7 METER OUT	PUMP VACUUM in Hg	Final PH	COMMENTS
SAMPLE GLOCK VELOCITY ORIFICE POINT: TIME HEAD METER VOI DeltaP, in wc DeltaII, in wc A O O S	Imp Outlet TC ID: GAS METER VOLUME 19 591,514	134 255	OVEN MODULE 25.5 39	impinger VS	GAS IN	METER OUT	PUMP VACUUM in Hg	Final PH	
SAMPLE GLOCK VELOCITY ORIFICE POINT: TIME HEAD METER VOI DeltaP, in wc DeltaII, in wc 7.5 0.88 1.5	Imp Outlet TC ID: GAS METER VOLUME 12 591.514 596.30	STACK PROBE 134 255 133 254	OVEN MODULE 25.5 39 25.5 40	impinger 45 40	GAS IN VS SO	226.7 METER OUT 44 45	PUMP VACUUM in Hg S_O S_S	Final PH	COMMENTS
SAMPLE GLOCK VELOCITY ORIFICE	Imp Outlet TC ID: GAS METER VOLUME 10 591.514 596.30 601.10	STACK PROBE 130 255 133 265	OVEN MODULE 25.5 39 255 40 256 40	impinger 45 40 40	GAS IN YS SO SS	METER OUT 44 45 47	PUMP VACUUM in Hg	Final PH	COMMENTS
SAMPLE GLOCK VELOCITY ORIFICE	Imp Outlet TC ID: GAS METER VOLUME 10 591.514 396.30 601.10 606.05	STACK PROBE 130 255 133 265 133 285	OVEN MODULE 25.5 39 25.5 40	impinger 45 40	GAS IN VS SO	226.7 METER OUT 44 45	PUMP VACUUM in Hg S_O S_S	Final PH	COMMENTS
SAMPLE GLOCK VELOCITY ORIFICE	Imp Outlet TC ID: GAS METER VOLUME 10 591.514 596.30 601.10	STACK PROBE 130 255 133 265	000 ORGANIC 000 MODULE 25.5 39 25.5 40 25.6 40	impinger 45 40 40	GAS IN YS SO SS	METER OUT 44 45 47	PUMP VACUUM in Hg S.O S.S	Final PH	COMMENTS

POINT	TIME =	HEAD	METER VOL.	VOLUME		Tuş.		ORGANIC		GAS	METER	VACUUM		OMMENTS
PARALES INTE	MARIA MADO SA	DeltaP, in we	DeltaII, in we	Section 18 at 2 hard	STACK	PROBE	OVEN	MODULE	IMPINGER	IN	OUT	in. Hg		
14	0	0.58	1.5	591.514	1302	255	255	39	45	48	44	5,0	Start	0930
	7.5	0.89	1.5	596,30	133	254	255	40	40	50	45	5.5		
2	15.0	0,93	1.6	601.10	133	Z55	256	40	40	53	47	6.0		
	22.5	0.99	1.7	606.05	133	255	256	40	41	57	49	6.5		
3_	30.0	1.0	1.7	611,25	132	255	256	41	42	59	50	6.5		
	37.5	19.99	1.7	616.39	132	256	255	44	43	62	52	6.5		-
4	45,0	19,99	1.7	621.56	133	254	252	42	44	62	54	6.5		
	52.5	6.99	1,7	626,71	132	255	254	43	45	64	54	6.5	·	
5	60.0	0.93	1.6	631-87	132	257	255	44	46	65	56	6.5		-
	67.5	0,93	1.6	637,00	/33	254	256	43	46	67	Sg	6.5		
6	75.0	0.81	1.4	641,96	133	254	253	44	47	64	59	60		
	82.5	0.82	1.4	646.77	134	256	257	45	49	69	61	6.0		
/B	90.0	0,95	1.7	651.53	132	755	Z56	44	44	66	61	6.5	Post A	1100
	97,5	0 95	1.7	656,70	134	252	256	42	43	68	61	7.0		-1102
2	105,0	0,93	16	661,92	134	255	255	42	42	69	62	7-0	# L V ·	
	112.5	6,87	4.5 1.5		134	255	257	_ 43	43	68	61	20		
3	120.0	0.86	1.5	671.86	134	254	256	42	43	68	61	7.0		
	127.5	0,82	1,4	676.75	134	256	253	44	44	69	61	7.0		
4	1350	0,90	1.6	681.48	134	255	254	45	44	68	61	7,0		
	142.5	0.91	1.6	686,53	134	255	256	46	46	69	61	7-0		
S	150.0	0.89	16	691,61	134	256	255		46	7/	6Z	7.0		· · · · · · · · · · · · · · · · · · ·
	157,5	0,90	1.6	696.68	134	259	256	45	47	72	63	7.0		
6	165,0	0.78	1.4	701.75	133	255	255	46	47	72	64	6.5		
	172.5	0.78	1,4	706.51	133	255	254	46	47	72	64			
Sold	180.0			711,269	~								End 1	232
														~~~
				n Umaga.										· ·
											<u> </u>	<u> </u>		

## **A**ECOM

### EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling	Tuain	18-16	/D/C)		ΔΛ.	<i>-1</i>					IMPINO	ER VOL'S.		Ors	at
		Method 0023A		Barometric Pressur				ECKS in "Hg			INIT.	FINAL	RINSE	CO2	O2
	pe <u>r TWO</u>		<u> CI-RZ</u>	<del></del>			INITIAL	'AC, 15	in. CFM	0,002	0	1			
Client Essenter y	Norlite Corpo			Probe/Pitot Number					in. CFM		100				
acility Loc		Cohoes, NY		Pitot Coefficient	0.5		FINAL V	AC. 8	in. CFM	0.001	100				
ource	Kiln 1 Exhaus			Filter Box No.	1-1B			+ -/	-	+ ,-	0			1 1	
Date -	October 28			Meter Box No.	506	2	INIT. PITO	or V	FINAL PITO	r_ √√	SG				
Operator		owley		Orifice Coefficient	( <u>Y) 0,9</u>	7/		FILTE	R DATA				"		
Stack Dia, -		48		Delta H@	1.91	4		NUMBER	TARE						
Start Time	(300)	1437		Nozzle Size/No.	0.2	16									
Stop Time	1430	1602		XAD Thermocouple	1D: 1A	0-11					SILI	CA GEL	Final Purg	e Rate 🛚 🗸	IA
				Imp Outlet TC ID:	レエ	-27	•		,	_	275.2		Final PH		iA
SAMPLE	CLOCK	VELOCITY	ORIFICE	GAS METER		TI	MPERA	TURE RE	ADINGS	٥E		1 - 22 1 - 7	FIRMITH		
POINT	TIME	HEAD	METER VOL.	VOLUME	THE PLANS	Professor and	-WI 61V		ADINGS,			PÛMP			
	ageniz de niv	DeltaP, in we	DeltaH, in we		STACK	PROBE	OVEN	ORGANIC MODULE			METER	VACUUM	ļ. ·	COMMENT	rs
1	0	7 2				A/A			IMPINGER		OUT	in, Hg			
	<del></del>	1.0	1.8	711.545	134	166	260	55	39	65	65	5.0	Stal	7 130	20
	7.5	1.0	1.8	716.84	134	256	256	40	45	70	66	5.5			
2	15.0	1-1	2.0	722.20	(33	254	258	41	45	73	66	6-0			···
	22.5	11-7	2.0	727,86	13.3	256	255	42	46	74	67	6.0	<del>                                     </del>	·	
3	300	0,97	1.7	733.50	133	256	256	41	46	<del></del>		5.5	<del></del>		
	37.5	0.97	1,7	738-74	133		<del>                                     </del>			75	67		<del>                                     </del>	· · - · - · - · - · - · - · · · · ·	
Н	45.0	) 4 (	<u> </u>			254	257	42	47	25	66	5.5			
	<del></del>	1.0	1.8	743.98	133	257	259	42	47	76	67	6-0			
	52.5	1.0	(.8	749,34	133	255	260	43	48	75	68	6-0			•
\$	60.0	0.44	1.67	754,72	133	254	256	44	48	75	6>	6.0			
	67.5	19,94	1.7	760,08	133	254	253	44	49	74	177	6-0	<del>                                     </del>		
6	75.0	0.89	1.6	765,20	133	251	256	45	50	74	70-5			<del> </del>	·
	62.5	19,87	15	770.26	133	100		45	49		<u>67</u>	\$.5	<del> </del>		
1	90.0	0,84				253	254	<del>, //_</del>	<del></del>	73	67	5,0	<del> </del>		
	Α		/ , 🥩	775.22	133	255	258	150	<i>5</i> 0	74	67	<i>5</i> . 5	POTTA		= 1.5
	47.5	0.84	1.5	780.065	132	254	257	44	49	75	68	5.5	Rectas	H @1	432
2_	105.0	1.0	1.8	785.05	132	255	254	45	49	76	69	6.0	, , , , , , , , , , , , , , , , , , ,	<u> </u>	
	112.5	1/1	20	790-47	134	256	256	46	50	76	70	6.5	<del>                                     </del>		
.3	120.0	1.1	20	796,13	133	255	254	46	50	75		6.5	<b></b>		
	177.5	1-1	2 0		,						69			<u> </u>	
4	4 /		4.5	801.64	133	255	255	46	5/	75	68	6.5			
<u> </u>	135.0		2,0	807,48	133	255	257	46	51	77	68	6,5	<u> </u>		
<i>/</i>	142.5	_ b	2.0	813/13	133	254	255	46	52	78	69	6.5			
S	150,0	1.0	1,8	818.78	133	255	255	48	53	78	7/	6.0			
	157,5	1.0	1.8	874.25	133	766	256	45	49	78	70	6.0			
6	165.0	0,86	1,5	829.66	133	257		44	42		70				
- 1/	172.5						257	1		78-	67	3.0	ļ		
77		0,87	1.5	834,65	133	254	258	45	43	78	<u> 70                                    </u>	3.5			
End	1800	7	~	534 601	<u> </u>								Grd	1602	839
														- "-	
										1			-		<del></del> -
										<del>  </del>					
	<del>                                     </del>						ļ <u> </u>			<del></del>					
										<u> </u>					

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### EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train Method 0023A (D/F)	24 110		IMPINGER VOL'S.	Orsat
Run Number Three A3 C1-R3	Barometric Pressure 24,40 Static Pressure (+/-)+0.15	LEAK CHECKS in "Hg	INIT. FINAL	RINSE CO2 O2
Client Norlite Corporation	Probe/Pitot Number 45-5-14	INITIAL VAC. 15 in. CFM 0.003	100	
Facility Location Cohoes, NY	Pitot Coefficient 0.84	FINAL VAC. 8 in. CFM 0.001		<del>  </del>     <del>  </del>
Source Kiln 1 Exhaust Stack	Filter Box No. 1-18-1	+ - + -	0	<del>  </del>
Date October 21, 2010	Meter Box No. 80612	INIT. PITOT // FINAL PITOT //	SG	<del>  </del>     <del>  </del>
Operator Crowles	Orifice Coefficient (Y) 0.971	FILTER DATA	50	<del>  </del>
Stack Dia in. 48	Delta H @ 1.914	NUMBER TARE		
Start Time 0904 1037	Nozzle Size/No. 0,216		<u> </u>	
Stop Time 1034 1207	XAD Thermocouple ID: ★★○ + 1		SILICA GEL	Final Purge Rate
SAMPLE OCK VENOCITY OF THE	Imp Outlet TC ID: LI-27		77 - 0	Final PH WIA
II SAMPLE INSTALLOCK   MELOGIEU   Anteron	: a. a. a===== = = = = = = = = = = = = =			

SAMPLE	CLOCK	VELOCITY	For granted a								18.7		Final PH	NIA
POINT	TIME		ORIFICE	GAS METER	<u> </u>		MPERA	TURE RE	ADINGS, '	<u>'F</u>		PUMP		
FOUNT #	TILLINE	HEAD DeltaP, in we	METER VOL. DeltaII, in we	VOLUME ft ²		·		ORGANIC			METER	VACUUM	CON	4MENTS
(A	O	0.79	1,4		STACK	PROBE	OVEN	MODULE	IMPINGER	IN	OUT	in, Hg		
1/4	7.5			8-31.853	133	253	256	58	52	52	Si	5.0	Start C	904
1		0.86	1.5	844.50	134	252	25/	39	46	53	52	6.0		
2	15.0	0,90	1.6	849,27	134	256	264	40	43	56	52	60		
	22.5	0.91	1-6	854-26	134	255	256	40	42	58	52	6.0		
3	30,0	0,95	1.6	859.32	134	257	255		42	60	इंड	6.5		
I	37,5	0,68	1.5	864-30	134	253	256	42	42	62	54	6.0		
4	450	0.94	66	869,23	134	255	256	43	44	63	54	65		
	5z.5	090	10	874.22	134	255	254	43	45	65	55	6.5	1	<u> </u>
5	60.0	0.89	1-6	879.24	134	255	262	44	46	66	56	6.5		
	67.5	0.91	1,6	884.30	134	256	252	44.	47	66	58	6.5	<u> </u>	·
6	75.0	0.77	1,4	554.27	134	256	253	44	48	67	54	6.0	<del>                                     </del>	
	82.5	0.82	1.4	894-04	(34	254	253	45	48	138	58	6.0		<u> </u>
18	90.0	0.88	1.5	898,82	134	259	260	44	49	65	60		Post A	036
	47.5	0.67	6-5	903-60	134	256	254		49	67	59	6-0	Restart	1037
2	105,0	0.88	1.5	408,42	135	254	255	45	50	67	59	6.0	AC27-17	037
	112.5	0.88	1.5	913,27	135	255	256	45	51	68	60	6.5	<del></del>	
3	120,0	0.84	1.5	918-26	135	255	253	46	52	6	60	6.5	· · · · · · · · · · · · · · · · · · ·	
	127.5	0.83	U.S.	923,04	(35	255	254	47	52	છ	59	6.5	<del></del>	
14	135.0	0.90	16	928,00	135	255	250	49	54	65	61	7.0	<del> </del>	
ļ	142.5	0.90	1,6	933.01	35	255	254	48	52	64	58	70	<del> </del>	····
S	1500	0.88	1,5	938-05	135	252	249	48	51	65	58	20	<del></del>	· · · · · · · · · · · · · · · · · · ·
	157.5	0.42	L-6	442.98	135	257	258	SU	8.9	65	57	7.0	<del> </del>	
6	168.0	0.87	1,5	948-01	135	256	255	52	S 2.	67	58	7-0		
	72.5	0 - 88	1,5	952.92	135	257	256	\$2	52	67	58	7.0		
End	1800			957,831									End 12	20"7
			-						_			,	- VVIII ( 4	
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													<del>                                     </del>	··-
									<u></u>					



### SAMPLE TRAIN MOISTURE RECOVERY DATA SHEET

	ence Met							A - PCD			CPT	
Recover	ed by : F.	Songue	dolce	٤_	Recover	ed by : 🗲	Sangue	doice	Recover	ed by : F.	Senguel	dolce
Run No.	CI-RI	Date : /0	120/2	010	Run No.	CI-R2	Date : / C/	120/2016	Run No.	CI-R3	Date : /c	121/2
	dule No. : \$				1	dule No. : \$			41	dule No. :		
Filter#:		Tare:	N/A		Filter#:	N/A	Tare:	N/A	Filter #:	N/A	Tare:	N/A
lı	mpinger No.	and Volu			lr	npinger No.	and Volu	ne	lr	npinger No	and Volu	me
	Initial	Final	Rin			Initial	Final	Rinse		Initial	Final	Rinse
No.	(mL)	(mL)	(ml	<u>L)</u>	No.	(mL)	(mL)	(mL)	No.	(mL)	(mL)	(mL)
1	0	110	~/.	A	1	0	250 135	NIA	1	0	187 i 70	NIA
2	100	104			2	100	102		2	100	100	
3	100	102			3	100	102		3	100	100	
4	0	2			4	. 0	1		4	0	0	
5	SG		1		5	SG		1	5	SG		1
6					6		-"		6			
7			DIFF	= :	7			DIFF:	7			DIFF :
Totals	200	568	368	8	Totals	200	590	390	Totals	200	<i>55</i> 7	357
isos enemas Convictores	Initial	Final		3.5,5		Initial	Final			Initial	Final	
Liganija (P. J.E.)	(g)	_ (g)	DIFF	<u>:</u>		(g)	(g)	DIFF:		(g)	(g)	DIFF :
Silica Gel	226.7	248.7	22.	0	Silica Gel	225.2	249.3	24.1	Silica Gel	218.9	245.5	26.6
XAD Trap	307.6	322.3	14.	7	XAD Trap	287.4	294.7	7.3	XAD Trap	314.5	325,2	10.7
Final N	Net Moisture	Gain:	404.	7	Final N	let Moistur	e Gain:	421.4	Final N	Net Moistur	e Gain:	394.3



#### **ORSAT ANALYSIS (EPA METHOD 3)**

PLANT: Norlite Corp Cohoes, NY DATE: 10/20-21/2010	PRE-LEAK CHECK : POST-LEAK CHECK :
LOCATION: Kiln 1 Exhaust Stack	NOTE:
SAMPLE TYPE: Tedlar Bag 🛧	Valid Leak Check : Liquid level must not fall
OPERATOR: Fred Senguedolle	below bottom of capillary tubing in 4 minutes
*Multipoint, Integrated	and meniscus must not change by more than 0.2 mL in 4 minutes.
NOTES / DA	ATA CRITERIA

 ${
m CO_2}$ : When greater than 4%, difference between readings shall be 0.3% or less.

When less than 4%, difference between readings shall be 0.2% or less.

O₂: When greater than or equal to 15%, difference between readings shall be 0.2% or less.

When less than 15%, difference between readings shall be 0.3% or less.

Test Condition	: /						
Run: C1-R1	Read	ding A	Rea	ading B	Read	ding C	Avg.
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume
CO₂	4.2	4.2	4.2	4.2	4.2	4.2	4.2
O ₂ *	19.8	15.6	19.8	15.6	19.8	15. 6	15.6
Run: C/-R2	Read	ding A	Rea	ading B	Read	ling C	Avg.
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume
CO ₂	4.0	4.0	4.0	4.0	4.0	4.0	4.0
O ₂ *	19.9	15.9	19.8	15.8	19.9	15.9	15.9
Run: C1-R3	Read	ling A	Rea	ading B	Read	ling C	Avg.
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume
CO₂	4.2	4.2	4.2	4.2	4.2	4.2	4.2
O ₂ *	19.6	15.4	19.6	15.4	19.6	15.4	15.4

Net O2 is actual O2 minus actual CO2 reading.

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10/20/2010

10/21/2010



#### METHOD 2 GAS VELOCITY AND VOLUME DATA SHEET

Frelininary Traverse - Setup day_

racing	y .	Norme Corp	s Condes	5, IN T PO	<u>rt Length:</u>	0	. IVIO	onorail ?	Platform Wi	dth Large
Date:		10/18/1	<u>0</u>		Port [	Diam.: <b>5</b>	" (Ý	or N	Railing Ht.:	42.
Opera		_ R. Bur	115							
	Diamete	• •	48-in	······································						
	ress. (in			<u> </u>		<u>Kiln 1 -</u>	Level 1 -	Stack Exhaus	<u>st</u>	
Static	Press. (i	in. H ₂ O) $\longrightarrow$	-0.16	) <u> </u>				W		
		or 0.99	(Circle on					_ <del></del>		
O ₂ (%)	)						_/		h-	
CO ₂ (%	<b>%</b> )	—· ·-—			]	ک	. de .	•••	<u> </u>	
	ulb Tem				1		- /	/		
Dry Bu	ılb Temp	o. (°F) :			]					ļ
10-1	101	1 +		* -				2=		
1	h Che sle C	che we		*						
Mos	ste C	>° ~	-			SCHE	MATIC C	OF STACK (	CROSS SE	ECTION '
1434-	1450									
		Vel.	Stack	Flow Angle	Mario S.			Vel.	Stack	Flow Angle
Pt.	Pos.	DP	Temp.	that Yields		Pt.	Pos.	DP	Temp.	that Yields
#	(in.)	(in. H ₂ O)	(°F)	a Null DP		#	(in.)	(in. H ₂ O)	(°F)	a Null DP
WI		0.60	125	4						
2	_	0.73	123	4						
3		0.78	123	Ż						
4		0.78	123	4						
	-	0.27	123	6						
6		0.72	123	0	44.31					
1 2		0.61	124	1						
<u>2</u> 3		0.74	124	0	lidi.					
<u>5</u> 4		0.66	124	4						
7		0.74	123	4						
5		0.74	123	3 ~						·
		0.77	123							
AVG		0.72	123	·						
<del>* * * *  </del>		V	<del>  ` ` ` </del>	<del></del>	7 787,342				<del></del>	<del></del>
il l	1	1			14-020-XXIII 1955			,	,	

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### METHOD 2 GAS VELOCITY AND VOLUME DATA SHEET 。

Facility Date : Opera	-	<del></del>	o Cohoes 10 urns	s, NY Pol	rt Length:	6" Diam.:	- Ψ" (Υ)	onorail ? <b>)</b> or N	Platform Wid Railing Ht.:	lanse 42"
	Diamete		48-in							
	ress. (in Press. (i				-	<u>Kiln 1 -</u>	Level 1 -	Stack Exhau	<u>st</u>	
		- /		0.45	-			W		
Cp:		or 0.99	(Circle on	e)						
$O_2(\%)$	)						/	<pre>/: \</pre>	1	
CO ₂ (%	<b>%</b> )		_		1	S	: +1.	• • • • •	HN	
	ulb Tem _l				1	-	٦ ٢	/	Γ'	
Dry Bu	ilb Temp	). (°F) :			]		/	$\mathcal{A}$		İ
AM	check	- prior to	testing	į				E		
			•		(	SCHE	MATIC (	OF STACK	CROSS SE	CTION
				· <del>-</del>						
	_	Vel.	Stack	Flow Angle				Vel.	Stack	Flow Angle
Pt.	Pos.	DP	Temp.	that Yields		Pt.	Pos.	DP	Temp.	that Yields
#	(in.)	(in. H₂O)	(°F)	a Null DP		#	(in.)	(in. H ₂ O)	(°F)	a Null DP

t											
7			Vel.	Stack	Flow Angle				Vel.	Stack	Flow Angle
	Pt.	Pos.	DP	Temp.	that Yields		Pt.	Pos.	DP	Temp.	that Yields
	#	(in.)	(in. H ₂ O)	(°F)	a Null DP		#	(in.)	(in. H ₂ O)	(°F)	a Null DP
W	7		0,99	122							
	2		1.0	122						•	
	3		0.94	122							
	4		0.97	122							
	5		0.95	122					,		·
	6		0.80	123							
<i>N</i>			0.93	122							
	2		1.0	122							
- 1	3		1.1	123							<del></del>
	4		1.1	/23						-	
	5		1.0	123					-		
	6		0.87	123							
										- '	
	AVG		0.97	122							
Į	Ll		<u></u>	]		Secretary in					

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Method 0023A (PCDDs/PCDFs) Sampling Parameters											
MACT CPT Condition 2 - Norlite Kiln 1											
Run No.		C2-R1	C2-R2	C2-R3							
Date		19-Oct-10	19-Oct-10	19-Oct-10	1						
Start Time	Units	10:58	14:40	17:58							
Stop Time		14:00	17:42	21:00	AVGS						
Nozzle Diameter	inches	0.216	0.216	0.216	0.216						
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79						
Net Sampling Time	min.	180.0	180.0	180.0	180.0						
Volume Metered	dcf	120.326	126.039	121.630	122.665						
Avg. DGM Temp.	°F	60.6	69.5	64.9	65.0						
Avg Delta H	in H₂O	1.59	1.72	1.63	1.64						
Avg Delta H	in. Hg	0.1170	0.1262	0.1195	0.1209						
DGM Calibration Factor		0.971	0.971	0.971	0.971						
Gas Sample Volume	dscf	118.515	122.108	118.610	119.744						
Total Water Collected	mL	365.4	385.4	370.7	373.8						
Volume of Water Vapor	scf	17.229	18.172	17.479	17.626						
Moisture (measured)	% v/v	12.7	13.0	12.8	12.8						
Moisture (@ saturation)	% v/v	14.8	15.6	16.0	15.5						
Dry Mole Fraction		0.8731	0.8705	0.8716	0.8717						
CO ₂ at Stack	% dry	3.90	4.00	4.00	3.97						
O ₂ at Stack	% dry	13.37	15.80	15.80	14.99						
CO + N ₂	% dry	82.73	80.20	80.20	81.04						
Dry Molecular Weight	lb/lb-mole	29.16	29.27	29.27	29.23						
Wet Molecular Weight	lb/lb-mole	27.74	27.81	27.82	27.79						
Excess Air at Stack	%	157.7	294.1	294.1	248.6						
Stack Diameter	inches	48.0	48.0	48.0	48.0						
Stack Area	sq. in.	1809.6	1809.6	1809.6	1809.6						
Static Pressure	in H ₂ O	0.42	0.35	0.35	0.37						
Stack Pressure	in. Hg	29.84	29.84	29.78	29.82						
Avg. Stack Temp.	°F	129.5	131.4	132.3	131.1						
Avg. Sqroot of Delta P		0.9813	1.0099	0.9925	0.9945						
SDE Average		23.827	24.559	24.154	24.180						
Pitot Coefficient		0.84	0.84	0.84	0.84						
Stack Gas Velocity	afpm	3,568	3,674	3,616	3,619						
Stack Flowrate	wet acfm	44,843	46,167	45,441	45,483						
Stack Flowrate	wet scfm	40,056	41,100	40,313	40,490						
Stack Flowrate	dscfm	34,972	35,776	35,136	35,294						
Isokinetics	%	93	94	93	93						
Meter Box No.		80612	80612	80612							
Delta H @	in. Hg	1.914	1.914	1.914							
Field QA Yqc		1.013	1.011	1.016	1.014						
[Deviation] Pre-Y	%	4.38%	4.14%	4.65%	4.39%						

QC Date Init

#### **MACT CPT Condition 2 - Norlite Kiln 1**

		C2-R1	AVGS	PCDDs	/ PCDFs			C2-R2	AVGS	- PCDDs	/ PCDFs			C2-R3	AVGS	PCDDs /	PCDFs	
PT	DP	SQRT	DGM	DGM	DH	STACK	DP	SQRT	DGM	DGM	DH	STACK	DP	SQRT	DGM	DGM	DH	STACK
		DP	IN	OUT		TEMP		DP	IN	ОПТ		TEMP		DP	IN	OUT		TEMP
a1	0.86	0.9274	49	46	1.40	128	1.10	1.0488	61	61	1.80	132	0.87	0.9327	65	64	1.40	132
	0.86	0.9274	5,1	48	1.40	128	1.10	1.0488	66	61	1.80	131	0.87	0.9327	66	63	1.40	132
a2	0.72	0.8485	54	49	1.20	129	1.10	1.0488	68	61	1.80	131	0.78	0.8832	69	62	1.30	132
	0.70	0.8367	56	48	1.10	129	0.97	0.9849	70	62	1.60	131	0.74	0.8602	69	62	1.20	132
a3	1.10	1.0488	57	51	1.80	129	0.97	0.9849	70	63	1.60	131	1.10	1.0488	69	62	1.80	133
	1.10	1.0488	61	51	1.80	129	0.97	0.9849	69	64	1.60	131	1.10	1.0488	70	62	1.80	133
a4	1.20	1.0954	64	54	2.00	129	1.00	1.0000	69	64	1.70	131	1.10	1.0488	70	62	1.80	133
	1.20	1.0954	66	54	2.00	129	1.00	1.0000	71	64	1.70	131	1.10	1.0488	70	62	1.80	132
a5	1.10	1.0488	67	57	1.80	129	0.95	0.9747	71	63	1.60	131	1.10	1.0488	71	62	1.80	132
	1.10	1.0488	68	59	1.80	130	1.00	1.0000	72	65	1.70	131	1.10	1.0488	71	62	1.80	132
а6	0.96	0.9798	68	59	1.60	130	0.98	0.9899	70	66	1.60	131	0.98	0.9899	70	62	1.60	132
	0.96	0.9798	67	59	1.60	130	0.97	0.9849	72	65	1.60	131	0.98	0.9899	69	63	1.60	133
b1	0.93	0.9644	66	61	1.60	130	0.87	0.9327	74	69	1.40	130	0.92	0.9592	65	62	1.50	133
	0.83	0.9110	67	61	1.40	130	0.90	0.9487	75	71	1.50	131	0.94	0.9695	67	61	1.60	133
b2	0.93	0.9644	68	62	1.50	129	1.10	1.0488	75	73	1.90	131	0.97	0.9849	68	60	1.60	132
	0.95	0.9747	68	63	1.60	131	1.10	1.0488	74	74	1.90	132	0.97	0.9849	67	. 59	1.60	132
b3	0.93	0.9644	68	63	1.50	130	1.20	1.0954	74	73	2.00	132	0.97	0.9849	68	60	1.60	132
	0.93	0.9644	67	61	1.50	130	1.20	1.0954	74	73	2.00	132	1.10	1.0488	68	61	1.80	132
b4	1.10	1.0488	67	61	1.80	130	1.10	1.0488	73	73	1.90	132	1.10	1.0488	69	60	1.80	132
	1.10	1.0488	68	62	1.80	130	1.10	1.0488	74	72	1.90	132	1.10	1.0488	68	61	1.80	132
b5	0.97	0.9849	68	61	1.60	130	1.00	1.0000	74	72	1.70	132	1.00	1.0000	68	60	1.70	132
	0.95	0.9747	68	59	1.60	130	1.00	1.0000	74	73	1.70	132	1.00	1.0000	68	60	1.70	132
b6	0.87	0.9327	69	60	1.40	130	0.92	0.9592	73	70	1.60	132	0.90	0.9487	68	60	1.50	132
	0.87	0.9327	69	61	1.40	130	0.92	0.9592	72	68	1.60	133	0.92	0.9592	68	60	1.50	133
g: wont									ijani. A				By Japa			Maria dan		
AVG	0.97	0.9813	60.6		1.59	130	1.02	1.0099	69.5		1.72	131	0.99	0.9925	64.9		1.63	132

QC Date Init



### EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

S	00 01	i	IMPINGER VOL'S.		Orsat
Sampling Train Method 0023A (D/F)	Barometric Pressure 29.81	LEAK CHECKS in "Hg	INIT. FINAL	RINSE	CO2 O2
Run Number One - RI C2-RI	Static Pressure (+/-) + 0, +2	INITIAL VAC. 15 in. CFM 0.002	0		
Client Norlite Corporation	Probe/Pitot Number M5-25-17	MID VAC. in. CFM	100		
Facility Location Cohoes, NY	Pitot Coefficient 0.84	FINAL VAC. Sin. CFM CO.OC	7 100		
Source Kiln 1 Baghouse Outlet	Filter Box No.	+ - +	0		
Date October 19, 2010	Meter Box No. 30612	INIT. PITOT V V FINAL PITOT VV	SG	<del> </del>	<del></del>
Operator Crowley	Orifice Coefficient (Y) 8.97/	FILTER DATA		· <del>  · · · ·  </del>	
Stack Dia, - in, 52	Delta H @ 1.914	NUMBER TARE			
Start Time 1058 1230	Nozzle Size/No. 0,216			<del></del>   .	<u> </u>
Stop Time <u>128 1400</u>	XAD Thermocouple ID: XAO-1Z		SILICA GEL	Final Purge	Rate
	Imp Outlet TC ID: LT-27		2243	Final PH	
SAMPLE CLOCK VELOCITY ORIFICE	GAS METER T	EMPERATURE READINGS, °F	PUMP	-	
POINT TIME HEAD METER VOI	VOLUME	ODCANIC	ACCEPT 111 OVIVIA	_	

SAMPLE	CLOCK	VELOCITY	ORIFICE	GAS METER	<u> </u>	TE	MPERA	TURE RE	<u>ADINGS, '</u>	'F		PUMP	
POINT	TIME	HEAD.	METER VOL.	VOLUME			MADE:	ORGANIC			METER	VACUUM	COMMENTS
ALEX VIREGISIA		DeltaP, in wc	DeltaH, in wc	ne	STACK	PROBE	OVEN	MODULE	IMPINGER	IN	OUT	in, Hg	
1 A	0	0,86	1,4	222,046	128	261	266	46	46	49	46	4.0	Start 1058
<u> </u>	7.5	0.86	1.4	226.68	128	254	264	47	41	ন্ত/	48	4-0	
2	15,0	0,72	1.2	231-26	179	254	265	45	41	54	49	5.0	
	22.5	0:70	Ich	235,62	129	254	264	47	41	56	48	4,5	
3	30.0		1.8	239.83	129	255	266	47	42	87	51	6,0	
	<i>37.5</i>	1-1	1.8	245.06	129	257	265	46	42	61	5/	6.0	
Y	45.0	1.2	2.0	250,40	129	256	264	47	43.	64	54	6.0	
	<i>92.</i> 5	12	2.0	256-03	129	256	265	49	44	66	54	6.0	
_ک_	60.0	1.1	1.8	261.66	129	255	265	52	46	67	55	6.0	
	67,5	11	1.8	267.05	130	255	266	54	48	68	59	6.0	
6	75.0	0.96	1.6	272-42	130	255	265	55	50	68	59	SS	
	82.5	0.96	1-6	277,51	130	256	265	53	49	67	59	5.5	Parts 1228
LB	40.0	0.93	1.6	282.63	120	256	264	58	Si	66	61	5.5	ROSKA 1230
ν.	92.5	19,83	1,4	287.63	130	256	264	54	49	67	61	5.5	
2	105.0	0,43	a+51,5		129	252	265	5.3	50	64	62	5.5	
	1125	10,95		297,26	131	258	265	<i>Š Š</i>	51	68	63	6.0	
3	120,0	0.93	i,S	302,31	130	255		54	ร์2	68	63	6-0	
	127.5	0.93	1,5	207,25	130	254	265	5#	52	67	61	6.0	
4	135.0	1.1	1.8	31215	130	257	265	54	52	67	61	6.0	
	1426		1.8	317.42	130	255	2.63	56	54	68	62	6.0	
S	150.0	0.97	1.6	322,85	130	254	266	57	55	68	61	6:0	
	157.5	0,95		327.89	130	255	265	57	56	68	59	lo-0	
6	165.0	0.87		332-49	120	255	264	58	57	64	60	5,6	
	172,5		1.4	336.9	130	255	265	.5 5	.58	69	61	5.5	
Cond	180,0	-,		342,372	<del>/</del>				<del></del>	-			End 1400
	10.2.0			,,,-									C 1 1 100
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### **A**ECOM

### EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 0023A	/D/E)		. 24.8	>1					IMPINO	GER VOL'S.	J.	Orsat
Run Number Tu			Barometric Pressur				ECKS in "Hg			INIT.	FINAL ===	RINSE	CO2 O2
		C2-RZ	Static Pressure (+/-)			INITIAL		_in. CFM	0,003	0		Tilli	
Facility Location	orporation	<u> </u>	Probe/Pitot Number		- H-	MID VAC		_in. CFM		100		1 1	.
	Cohoes, NY haust Stack		Pitot Coefficient	<u>Q,5</u>		FINAL V	/AC. 9	in. CFM	0.00	100		1 1 1	
	19 ,2010		Filter Box No.	<u> </u>			+ -		+ -/	0		1	
		·	Meter Box No.	<u> 806</u>		INIT, PIT	OT V	FINAL PITOT	r_	SG			<del>  </del>
Stack Dia, - in.	crowley		Orifice Coefficient					R DATA	_				
Start Time 1441		···	Delta H@	1.9	<u> </u>		NUMBER	TARE					
Stop Time 6/10		<del>""</del>	Nozzle Size/No.	0.21	<u> </u>				] :				
	742	<del>~</del>	_ XAD Thermocouple		0-11			<u> </u>	]	SILI	CA GEL	Final Purge R	<b>Rate</b>
AMPLIANT MET A			Imp Outlet TC ID:	レエ-	<u> 27 </u>					221.0		Final PH	
SAMPLE CLOC	K VELOCITY	ORIFICE	GAS METER		TE	MPERA	ATURE RE	ADINGS.	°F	<u> </u>	DULAR	T	<del></del>
POINT	HEAD	METER VOL.	VOLUME	11.0	an ikuden er i	10.00	ORGANIC	1		METER	PUMP		•
	DeltaP, in we	DeltaH, in we	re*	STACK	PROBE	OVEN	MODULE	IMPINGER	IN	OUT	VACUUM	cc	DMMENTS
18 0	1.1	1.8	343,021	132	264	268	43	\$7			in, Hg	<del> </del>	
7.5		1.8	348.30	13/	254		<u> </u>		61	61	SO	Staft	- 1440
2 15.0	1 1 1					264	39	43	66	61	6.0		
		18	383,65	13/	251	264	39	44	68	61	6.0		
225		1.6	359,03	131	255	264	40	44	70	62	6.0		
3 30		16	364,-	131	257	266	40	45	70	63	6.0		
37,5		1.6	369,12	131	256	265	44	48	69	64	6.0	<del> </del>	
4 45.8	2160	11.7	37411	13/	255	265	43	49	69	64		<del></del>	
52,9	5 1.0	1.7	374,41	13/	257	265	42	48			6.0	<del></del>	
5 608		1.6	384,60	131	254				7/	64	6.8	<u> </u>	
67.5	- 1	1/6				265	42	48	71	63	6.0	<u> </u>	
4 2		1//	389,65	13/	255	264	42	48	72	65	6.5	L	
	2 0,98	16_	344.87	13/	253	265		49	70	66	6.0	ĺ	
82.5		1.6	394.95	131	256	264	44	50	72	65	6.5	Posts	1610
14 908		1.4	405.08	130	253	265	247	52	74	69	6.0	Restult	
197.5	5 19,90	1.5	404.87	131	255	265	46	5/	75	7/	0.0	1 7, 9 .	
2 105	0 2011	1,9	414,85	131	755	266	47	52	75	73			<del></del>
112.5	5 1	19	420.38	132	25 5	265	48	54			7.5	<del></del>	
3 1201		2.0	425.91					>4	74	74	7,5	<del></del>	
127.		2.0		132	254	264	50	8 <b>5</b>	74	73	8.0		
			431,58	132	253	265	50	<i>S5</i>	74	73	8.0	l	
		1.9	437-37	132	255	260	53	57	73	73	8.0		
	5 1.1	1.9	442.40	132	254	263	55	57	フル	72	8.0		<del></del>
S 150.		1.7	448,28	132	255	267	57	60	74	72	8.0		
157.5	1.0	\. 7	453:40	132	254	264	57	60	74	73		<del></del>	
6 65.0		1,6	458,88	132	ass	266	59	42	43	70	8.0		
172.5			464,00								8-0		
		(.6		133	255	265	61	62	72	68	7. <u>S</u>		
End 180			469,060			$\Box$						End 1	742
<del></del>								[					
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NEICVP1120E01

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## AECOM

### EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

	- A	IMP	INGER VOL'S, Orsat
Sampling Train Method 0023A (D/F)	Barometric Pressure 24.75	LEAK CHECKS in "Hg INIT.	FINAL RINSE CO2 O2
Run Number Three - R3 C2-R3	Static Pressure (+/-) +0.35	INITIAL VAC. 15 in. CFM 0.009 0	
Client Norlite Corporation	Probe/Pitot Number 115-5-H	MID VAC. in. CFM 100	
Facility Location Cohoes, NY	Pitot Coefficient 0.84	FINAL VAC. S in. CFM O.O. 100	
Source Kiln 1 Exhaust Stack	Filter Box No (13-1	+ 7 + - 0	
Date October 17, 2010	Meter Box No. 80612	INIT. PITOT V FINAL PITOT V SG	
Operator <u>Crowley</u>	Orifice Coefficient (Y) 0,97/	FILTER DATA	
Stack Dia in. 48	Delta H@	NUMBER	7 20 4 7 20 17
Start Time	Nozzle Size/No.		
Stop Time 1928 2100	XAD Thermocouple ID: XAD-1		LICA GEL Final Purge Rate
	Imp Outlet TC ID: LT-27	294,	2 Final PH
SAMPLE CLOCK VELOCITY ORIFICE	GAS METER T	EMPERATURE READINGS, °F	PUMP
POINT TIME HEAD METER VOL.	VOEUME	ORGANIC GAS METER	VACUUM COMMENTS

SAMPLE	= CLOCK	- VELOCITY 1	ORIFICE	GAS METER		TE	MPERA	TURE REA	ADINGS,	°F		PUMP	
POINT	TIME	HEAD	METER VOL.	VOLUME	upper (7 die Gebeure		A14	ORGANIC	y the taken		METER'	VACUUM	COMMENTS
MASTUTIONS	819-10918 (ALASA) (A	DeltaP, in we	DeltaH, in wc	fr m	STACK	PROBE	OVEN	MODULE	IMPINGER	IN	OUT	in. Hg	
14	0	087	1.4	469,411	132	262	271	60	54	<i>Q5</i>	64		Stut 1758
<b></b>	7.5	0.87	1.4	474,12	132	256	267	62	57	66	63	6.0	
2	15.0	0.78	1.3	478,92	132	256	263		60	69	62	5,0	
		0.74	1.2	483,83	132	255	266	42	\$2	69	62	5.0	
3	30,0		1.8	487,94	<u> [33</u>	256	265	42	47	69	62	6.5	
1	37.5	1-(	1.8	492,38	133	25 <u>5</u>	266	44	46	70	62	6.5	
4	45,0	121	1.8	418,58		255	266	44	46	70	62	B. S	
	<u>52.5</u>	-1.1	18	503.96	132	254	265	45	46	70	62	6.5	
S	60.0	1	1.8	809,31	132	255	267	46	98	7/	62	6.5	
	67,5	l.l.	1-8-	514-68	132	255	265	45	268	71	62	6.5	
ا ط	750	0.98	1.6	520,05	132	255	263	5 45	48	70	62	6,0	
		6.48	1,6	525, [3	133	254	268	45	48	69	63	6.0	16A DAZS
iß		0.92	1.5	53017	133	255	268	46	49	65	62		Restart 1930
I	97,5	0-94	6.6	534,99	133	256	263	47	49	67	61	7.0	
2	1050	0.97	F.6		032	253	264	46	48	68	60	7-0	
	112.5	0.47	1.6	544,97	132	256	264	_47	49	67	59	7-0	
3	120,0	0,47	1,6	550,02	132	2.56	266	47	49	68	60	7-8	
<u> </u>	127.5	1/1	1,8	555106	132	256	266	47	49	68	61	7.5	
4	135.0	l, l	16	560,40	132	256	262	46	50	69	60	7-0	
	1425		1.8	585,68	132	255	266	47	50	68	61	7-0	
LS	150.0	100	1.7	570.18	132	255	265	<b>47</b>	50	68	60	7-0	
	157.5	1-0	1,7	576-16	132	255	264	47	49	68	60	7.0	
6	165.0	0.90	1,5	581,35	132	256	262	48	80	68	60	20	
	172.5	0,92		586.18	33	256	263	24%	50	68	60	6,5	
GNO	180,0			591 041				,					End 2100
									••				

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#### SAMPLE TRAIN MOISTURE RECOVERY DATA SHEET

Reference Method / Sampling Train : M0023A - PCDDs/PCDFs CPT														
Recover	ed by : 🗲	Sangue	edo	lce	Recover	ed by : F,	Sengue	dole	c e	Recovered by: F. Sanguedolce				
Run No.	C2-R1	Date:/c	/19	1201	cRun No.	C2-R2	Date : /c	119	12010	Run No.	C2-R3	Date : / a	0/19/201	
	dule No. : S				II .					XAD Module No.: 57/74/5				
Filter#:	N/A	Tare:	N/A		Filter#:		Tare:	N/A		Filter #: N/A Tare: N/A				
lr	npinger No.	and Volu	me		Ir	npinger No.	and Volu	me		Impinger No. and Volume				
	Initial	Final	Ri	nse		Initial	Final	Rir	ıse		Initial	Final	Rinse	
No.	(mL)	(mL)	(n	nL)	No.	(mL)	(mL)	(m	ıL)	No.	(mL)	(mL)	(mL)	
1	0	242 86	W	/A	1	0	250 98	~	/A	1	0	250 84	N/A	
2	100	98			2	100	98			2	100	98		
3	100	98			3	100	98			3	100	100		
4	0	0			4	0	0			4	0	1		
5	SG		1		5	SG		J		5	SG		1	
6					6					6				
7		· · ·	DIF	F:	7			DIF	F·	7			DIFF:	
Totals	200	524		_	Totals	200	544			Totals	200	533	333	
	Initial	Final	TO PERSON	en ener	And the opening Market of the co	Initial	Final	ro sa sas Light			Initial	Final		
	(g)	(g)	DIF	F:		(g)	(g)	DIF	F:		(g)	(g)	DIFF:	
Silica Gel	229.3	255.5	26	.2	Silica Gel	229.0				Silica Gel	227.9			
XAD Trap	310.8	326.0	15.	a	XAD Trap	306.8	319.3	12.	.5	XAD Trap	294.2	306.8	12.6	
Final N	let Moisture	Gain:	365	.4	Final N	let Moisture	Gain:	385	.4	Final N	let Moistur	e Gain:	370.7	

KHPLC H2O	Acetone	Methylene Ch loride.	Toluene
Fisher Chemical	Fisher Chemical	Fisher Chemical	Fisher Chemical
Lot 102949	628601 +02	Lot 102647	Lot 105615
	·		
		•	



#### **ORSAT ANALYSIS (EPA METHOD 3)**

PLANT: Norlite Corp Cohoes, NY DATE: 10/19/2010	PRE-LEAK CHECK : /							
LOCATION: Kiln 1 Exhaust Stack	NOTE:							
SAMPLE TYPE: Tedlar Bag *	Valid Leak Check : Liquid level must not fall							
OPERATOR: Fred Songuedoice	below bottom of capillary tubing in 4 minutes							
* Multi-Point Integrated (M23)	and meniscus must not change by more than 0.2 mL in 4 minutes.							
NOTES / DATA CRITERIA								

When greater than 4%, difference between readings shall be 0.3% or less. CO₂:

When less than 4%, difference between readings shall be 0.2% or less.

 $O_2$ : When greater than or equal to 15%, difference between readings shall be 0.2% or less.

When less than 15%, difference between readings shall be 0.3% or less.

Test Condition	Test Condition: 2											
Run: C2-R1	Rea	ding A	Rea	ading B	Read	ding C	Avg.					
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume					
CO ₂	3.9	3.9	3.9	3.9	3.9	3.9	3.9					
O ₂ *	17.2	13.3	17.3	13.4	17.3	13.4	13.4					
Run: C2-R2	Read	ding A	Rea	Reading B Reading C		ling C	Avg.					
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume					
CO ₂	4.0	4.0	4.0	4.0	4.0	4.0	4.0					
O ₂ *	19.8	15.8	19.8	15.8	19.8	15.8	15.8					
Run: C2-R3	Read	ling A	Rea	ading B	Read	ling C	Avg.					
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume					
CO₂	4.0	4.0	4.0	4.0	4.0	4.0	4.0					
O ₂ *	19.8	15.8	19.8	15.8	19.8	15.8	15.8					

Net O₂ is actual O₂ minus actual CO₂ reading.

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Method 29 Sampling Parameters												
Norlite	Norlite MACT CPT - Test Condition 2											
Run No.		C2-R1	C2-R2	C2-R3								
Date		19-Oct-10	19-Oct-10	19-Oct-10								
Start Time	Units	10:58	14:40	17:58	}							
Stop Time		13:04	16:45	20:02	AVGS							
Nozzle Diameter	inches	0.225	0.225	0.225	0.225							
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79							
Net Sampling Time	min.	120.0	120.0	120.0	120.0							
Volume Metered	dcf	92.568	94.763	94.637	93.989							
Avg. DGM Temp.	°F	63.7	70.4	68.2	67.4							
Avg Delta H	in H ₂ O	2.03	2.10	2.11	2.08							
Avg Delta H	in. Hg	0.1492	0.1547	0.1550	0.1530							
DGM Calibration Factor		0.9900	0.9900	0.9900	0.9900							
Gas Sample Volume	dscf	92.518	93.539	93.610	93.222							
Total Water Collected	mL	281.7	286.4	311.9	293.3							
Volume of Water Vapor	scf	13.282	13.504	14.706	13.831							
Moisture (measured)	% v/v	12.6	12.6	13.6	12.9							
Moisture (@ saturation)	% v/v	15.2	16.0	16.5	15.9							
Dry Mole Fraction, 100-%M		0.8745	0.8738	0.8642	0.8708							
CO₂ at Stack	% dry	3.90	4.00	4.00	3.97							
O₂ at Stack	% dry	13.37	15.80	15.80	14.99							
CO + N ₂	% dry	82.73	80.20	80.20	81.04							
Dry Molecular Weight	lb/lb-mole	29.16	29.27	29.27	29.23							
Wet Molecular Weight	lb/lb-mole	27.76	27.85	27.74	27.78							
Excess Air at Stack	%	157.7	294.1	294.1	248.6							
Stack Diameter	inches	48.0	48.0	48.0	48.0							
Stack Area	sq. in.	1809.6	1809.6	1809.6	1809.6							
Static Pressure	in H ₂ O	0.45	0.45	0.45	0.45							
Stack Pressure	in. Hg	29.84	29.84	29.78	29.82							
Avg. Stack Temp.	°F	130.5	132.7	133.5	132.2							
Avg. Sqroot of Delta P		1.0250	1.0320	1.0340	1.0303							
SDE Average		24.908	25.124	25.190	25.074							
Pitot Coefficient		0.84	0.84	0.84	0.84							
Stack Gas Velocity	afpm	3,729	3,755	3,776	3,754							
Stack Flowrate	wet acfm	_46,863	47,190	47,455	47,169							
Stack Flowrate	wet scfm	41,798	41,930	42,027	41,919							
Stack Flowrate	dscfm	36,551	36,641	36,321	36,504							
Isokinetics	%.	96	97	98	97							
Meter Box No.	<del></del>	80102	80102	80102								
Delta H @	in H ₂ O	1.902	1.902	1.902								
Field QA Yqc		0.997	0.996	0.997	0.997							
[Deviation] Pre-Y	%	0.72%	0.62%	0.75%	0.70%							

QC DATE INIT

#### **Norlite MACT CPT - Test Condition 2**

		C2-R1	AVG	S M	ETALS			C2-R2	AVGS	MI	TALS			C2-R3	AVGS	5 MI	ETALS	
PT	Delta P	SQRT	DGM	DGM	Delta H	STACK	Delta P	SQRT	DGM	DGM	Delta H	STACK	Delta P	SQRT	DGM	DGM	Delta H	STACK
		Delta P	IN	OUT		TEMP		Delta P	IN	OUT		TEMP		Delta P	IN	OUT		TEMP
a1	1.00	1.0000	52	51	1.90	129	0.94	0.9695	63	61	1.80	132	1.10	1.0488	65	65	2.10	132
	1.00	1.0000	55	51	1.90	128	0.94	0.9695	65	62	1.80	130	1.10	1.0488	65	64	2.10	133
a2	1.10	1.0488	56	52	2.10	130	1.10	1.0488	66	62	2.10	132	1.10	1.0488	66	63	2.10	133
	1.10	1.0488	59	53	2.10	131	1.10	1.0488	68	62	2.10	133	1.10	1.0488	68	63	2.10	133
а3	1.10	1.0488	60	53	2.10	130	1.10	1.0488	70	63	2.10	133	1.10	1.0488	69	63	2.10	133
	1.10	1.0488	62	54	2.10	131	1.10	1.0488	71	63	2.20	133	1.10	1.0488	71	63	2.20	134
a4	1.10	1.0488	64	55	2.10	130	1.10	1.0488	73	64	2.20	132	1.20	1.0954	71	63	2.40	133
	1.10	1.0488	65	56	2.10	130	1.10	1.0488	74	65	2.20	133	1.20	1.0954	72	64	2.40	134
a5	1.10	1.0488	65	57	2.10	131	1.10	1.0488	75	66	2.20	133	1.10	1.0488	73	65	2.20	134
	1.10	1.0488	66	57	2.10	130	1.10	1.0488	76	67	2.20	133	1.10	1.0488	73	65	2.20	134
а6	0.90	0.9487	68	58	1.70	130	0.95	0.9747	77	68	1.80	132	0.93	0.9644	73	65	1.80	134
	0.85	0.9220	67	59	1.60	130	0.95	0.9747	76	68	1.80	132	0.94	0.9695	74	66	1.80	134
b1	0.95	0.9747	64	60	1.80	131	1.10	1.0488	72	69	2.20	132	0.98	0.9899	70	66	1.90	133
	0.95	0.9747	70	62	1.80	130	1.10	1.0488	75	69	2.20	133	0.94	0.9695	73	66	1.80	133
b2	1.10	1.0488	71	63	2.10	130	1.10	1.0488	76	69	2.20	133	1.00	1.0000	73	66	2.00	133
L	1.10	1.0488	72	63	2.10	130	1.10	1.0488	76	69	2.20	133	1.10	1.0488	74	66	2.20	132
b3	1.10	1.0488	74	63	2.10	130	1.10	1.0488	77	69	2.20	133	1.10	1.0488	74	66	2.20	133
	1.10	1.0488	74	65	2.10	131	1.10	1.0488	77	70	2.20	133	1.10	1.0488	73	66	2.20	134
b4	1.10	1.0488	75	65	2.20	132	1.10	1.0488	72	70	2.20	133	1.10	1.0488	73	67	2.20	134
	1.10	1.0488	76	66	2.20	132	1.10	1.0488	78	70	2.20	133	1.10	1.0488	73	66	2.20	134
b5	1.10	1.0488	76	67	2.20	131	1.10	1.0488	78	70	2.20	134	1.10	1.0488	72	66	2.20	134
	1.10	1.0488	77	68	2.20	131	1.10	1.0488	78	70	2.20	134	1.10	1.0488	72	66	2.20	134
b6	1.00	1.0000	77	69	2.00	132	1.00	1.0000	79	70	2.00	133	1.00	1.0000	72	66	2.00	134
	1.00	1.0000	76	69	2.00	131	1.00	1.0000	79	70	2.00	133	1.00	1.0000	72	66	2.00	134
		450																
AVG	1.05	1.0250	63.7	y, ni	2.03	130	1.07	1.0320	70.4		2.10	133	1.07	1.0340	68.2		2.11	133

10/25/10 cc

### **AECOM**

#### EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

O		1	IMPINGER VOL'S.	1	Orsat	- 11
Sampling Train Method 29 (Metals)	Barometric Pressure 29.86	LEAK CHECKS in "Hg	INIT. FINAL	RINSE	CO2 O2	7
Run Numbe <u>C2 - R1</u>	Static Pressure +0.45	INITIAL VAC. 15 in. CFM 0.004	0	<u> </u>		<b>=</b>
Client Norlite Corporation	Probe/Pitot Number M5.5. F	MID VAC. in. CFM	100			ļļ.
Facility Location Cohoes, NY	Pitot Coefficient 6.89	FINAL VAC. S in. CFM 0,002	100		<del> </del>	┨.
Source Kiln 1 Exhaust Stack	Filter Box No	+ - + -	0	<b></b>		H
Date October 17, 2010	Meter Box No. 80/02	INIT. PITOT FINAL PITOT	100		<del>                                    </del>	7
Operator R. Burns	Orifice Coefficient (Y) 0.990	FILTER DATA	100			
Stack Dia in. 48**	Delta H @ 1.702	NUMBER	SG		37.5	1
Start Time 1058 1204	Nozzle Size/No. 0.225	Quarte			<u> </u>	
Stop Time //58 /309	XAD Thermocouple ID: 11/19		SILICA GEL	Final Purge	Rate	
	Imp Outlet TC ID: AUX-3406		222.5	Final PH		

SAMPLE	CLOCK	VELOCITY	ORIFICE	GAS METER	TEMPERATURE READINGS, °F							PUMP	
POINT	TIME	HEAD4	METER VOL:	VOLUME	MONEY PA		STATE OF STATE	ORGANIC			METER	VACUUM	COMMENTS -
		DeltaP, in wc	DeltaH, in we	e in the second	STACK	PROBE	OVEN	MODULE	IMPINGER	IN	OUT	in, Hg	· · · · · · · · · · · · · · · · · · ·
E 1	0	1.0	1.9	956,257	129	246	251	NIA	48	52	51	5.0	
ļ <u>-</u> -	5	1.0	1.9	959.9	128	258	253		43	55	51	5.0	
2	/0	1.1	2.1	963.6	130	246	246		43	52	52	5.0	
<u> </u>	15	1.1		967.4	131	244	246		43	59	53	6.0	
	20_	1.1	2.1	971.3	130	244	249		43	60	53	6.0	
	25	1.1	2.1	975.2	131	258	247		44	62	54	6.0	
4	30	1.1	2.1	979.1	130	252	263		44	64	55	6.5	
	35	1.1		983. O	130	259	265		44	65	وح	6.5	
5	40	1.1	2.1	986.9	131	253	260		44	65	57	7.0	
	45	1.1		990.8	130	246	253		45	66	57	7.0	
6	50	0.90	1.7	99J.O	130	260	248		45	68	58	7.0	
	55	0.85	1.6	798.3	130	240	245		46	67	5	6.5	
S 1	60	0.95	1.8	1001.768	131	253	247		51	64	60	6.0	
4	65	0.95	1.8	1005.4	130	258	243		47	20	62	6.0	
2	70	1.1	2.1	1009.1	130	244	244		46	71	63	6.5	
	25	1.1	2.1	1013.0	130	246	247		46	72	63	7.0	
3	80	1.1	2.1	1016.9	130	243	264	ţ	46	74	63	7.0	
	85	1.1	2.1	1021.0	131	244	253		47	74	65	20	
4	90	1.1	2.2	1024.9	132	246	256		47	75	65	7.0	
	95	1.1	2.2	1029.0	132	248	259		49	26	66	2.0	
5	100	1.1	2.2	1033. C	131	242	257		49	76	67	7.0	
	105	1.1	2.2	1037.0	131	240	260		50	22	68	7.0	
4	116	1.0		1641.1	132	250	258		49	22	69	2.0	
	118	1.0	-	1045.0	131	254	249	1	49	16	69	7.0	
Encl	120			1048.825	1		·			_	~	_	
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### AECOM

### EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

G . N . T			IMPINGI	ER VOL'S.		Ors	at
Sampling Train Method 29 (Metals)	Barometric Pressure 19,57	LEAK CHECKS in "Hg	INIT	FINAL	RINSE	CO2	O2
Run Number C2-R2	Static Pressure 64 70.45	INITIAL VAC. 15 in. CFM 0.009	0				
Client Norlite Corporation	Probe/Pitot Number 115.5. F	MID VAC. in. CFM	100				1
Facility Location Cohoes, NY	Pitot Coefficient 0.84	FINAL VAC. 8 in. CFM U.Od5	100		i		
Source Kiln 1 Exhaust Stack	Filter Box No. HB-19	+ - +	J 0				ii ii
Date October , 2010	Meter Box No. 25042 80102	2 INIT. PITOT / FINAL PITOT	100				
Operator Ryon Burns	Orifice Coefficient (Y) 0.970	FILTER DATA	100				
Stack Dia in. 48	Delta H@ 1.902	NUMBER TARE	SG			1.1.	
Start Time 1446 1545	Nozzle Size/No. 6.225	Quartz				<u></u>	<del></del> -
Stop Time 1540 1645	XAD Thermocouple ID: W/A		SILIC	A GEL F	inal Purge	Rate	
	Imp Outlet TC ID: Aux-3400	·	223.3	F	inal PH		

SAMPL	0.00	LOCK	VELOCITY	ORIFICE	GAS METER	TEMPERATURE READINGS, °F							PUMP	
POINT	28 5 0	TIME	HEAD	METER VOL.	VOLUME				ORGANI			METER	VACUUM	COMMENTS
42.14433.233	7	161381 SA 3E	DeltaP, in we	DeltaH, in we	e fried	STACK		OVEN	MODULE		<u> </u>	OUT	in. Hg	
5 1		<u>o</u>	0.94	1.8	49.116	132	288	247	<u> </u>	<u>55</u>	63	61	3.5	
	_	سی	0.94	1.8	53.2	130	243	244		45	65	62	4.0	
2	_	0	1.1	2.1	56.4	132	253	263		45	66	62	4.0	
<u></u>		سر،	1.1	2.1	60.3	133	246	248		45	68	62	4.5	
3	<del></del>	20	1.1	2.1	64.2	133	254	242		45	70	63	5.0	
\ <u>.</u>		25-	1.1	2.2	68,1	133	259	244		46	71	63	5.0	
<u> </u>		? a	1.1	2.2	72.1	132	254	252	<u> </u>	47	73	64	ن <del>. ک</del>	
<u> </u>		75^	1.1	2.2	76.2	133	246	263		47	24	65	5.0	
5		18	1.1	2.2	80.2	133	255	260		48	75	66	5.5	
		15	1.1	2.2	84.3	133	250	256		49	76	67	6.0	
6	ن	50	0.95	1.8	88.2	132	250	245	1	49	77	68	5.5	
		5-5-	0.95	1.8	92.0	132	247	248		49	76	68	5.5	
45 1		, 0	1.1	2.2	95.670	132	249	256		54	72	69	6.0	
	6	-5-	1.1	2.2	99.6	133	259	264		49	75	69	6.0	
2		26	1.1	2.2	103.6	133	253	257		30	26	69	6.0	
		-5	1.1	2.2	107.7	133	245	252		52	74	69	6.5	
3		70	1.1	2,2	111.7	133	255	244		51	77	69	6.5	
	2	سمح	1.1	2.2	115.9	133	254	243		52	22	20	6.5-	
4		6	1.1	2.2	119.9	133	247	259		52	72	70	6.5	
<u> </u>	9	5-	1.1	2.2	124.0	133	257	253		52	78	20	2.0	
5	/	00	1.1	2.2	128.2	134	246	251		51	78	.70	70	
	/	05	1.1	2.2	132.1	134	252	259		51	78	70	2.0	
6		10	1.0	2.0	136.1	133		246		51	29	20	7.6	
	1	سسى	1.0	2.6	140.0	133	255	249		51	29	20	20	
End	1.	<b>(0</b>			143879	/				_	_	_	_	
														,
										·				



### EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

0 . 11 . 12 . 12 . 12 . 12 . 12 . 12 . 1	m		IMPING	ER VOL'S.	Orsat
Sampling Train Method 29 (Metals)	Barometric Pressure 29. 25	LEAK CHECKS in "Hg	INIT	FINAL RINSE	CO2 02
Run Number C2 - R3	Static Pressure (20) + 0.45	INITIAL VAC. /5 in. CFM 6.003	0		
Cilent Norlite Corporation	Probe/Pitot Number 115-5-1	MID VAC, in. CFM	100		
Facility Location Cohoes, NY	Pitot Coefficient 0.84	FINAL VAC. 5 in. CFM 6-60	100		
Source Kiln 1 Exhaust Stack	Filter Box No. 18-19	+ - + -	0		
Date October /9 ,2010	Meter Box No. Sec 12 801	FINAL PITOT FINAL PITOT	100		
Operator R. Borns	Orifice Coefficient (Y) 6.990	FILTER DATA	100		
Stack Dia in. 48 "	Delta H@ 1.902	NUMBER TARE	SG		
Start Time 1758 1902	Nozzle Size/No. 0.225	Obe-tz			
Stop Time 1858 2002	XAD Thermocouple ID: 173		SILIC	A GEL Final Purge	Rate
	Imp Outlet TC ID: AUX-5400		224.6	Final PH	
SAMPLE CLOCK VELOCITY ORIFICE	GAS METER T	EMPERATURE READINGS, °F		PUMP	

SAMPLE	CLOCK	VELOCITY	ORIFICE	GAS METER		TE	MPERA	TURE REA	ADINGS, °	<u> </u>		PUMP	
POINT.	TIME	HEAD :	METER VOL.	VOLUME				ORGANIC			METER	VACUUM	COMMENTS
G-MUNICIPAL COL		DeltaP, in wc	DeltaH, in wc	ir of the same	STACK		OVEN	MODULE	IMPINGER	IN	OUT	in. Hg	
E 1	6	1.1	2.1	144.168	132	256	244	NIA	_2_	65	65	4.0	
		1.1	2.1	148.1	133	251	265		49	65	64	4.0	
	/8	1.1	2.1	152.0	133	258	257		47	66	63	4.0	
ļ <u>.</u>	15-	1.1	2.1	155.9	133	245	247		47	68	63	4.0	
3_	20	1.1	2.1	159.9	/33	25%	242		47	69	63	4.0	
	25	1.1	2.2	163.8	134	254	244		47	21	63	4.5	
4	30	1.2	2.4	167.9	/33	255	261		47	71	63	5.0	
	35	1.2	2.4	172.1	134	244	259		47	72	64	5.0	
سی	40	1.1	2.2	176.3	134	254	263		46	73	65	5.0	
	45	1,1	2.2	186.4	134	245	264		44	73	65	0.0	
6	50	0.93	1.8	184.4	134	248	247		45	73	65	5.0	
	``—کی	0.94	1.8	188.0	134	258	241	1	46	24	66	5.0	
1	40	0.98	1.9	191.638	133	249	243	1	58		66	5.0	
	65	6.94	1.8	195.4	133	260	249		46	73	66	5.0	
2	70	1.0	2.0	199.1	133	249	249	1	46	73	CoCo	5.0	
	75	1.1	2.2	202.9	132	247	250	<u> </u>	46	74	66	5.0	
3	80	1.1	2.2	207.0	133	284	263		47	24	46	5.0	
	85	1.1	2.2	211.1	134		263		48	73	66	5,0	
4	90	1.1	2.2	215.1	134	258	259		48	73	62	5.0	
	95	1.1	2.2	219.0	134	243	253		48	73	66	5.0	
	100	1.1	2.2	223.1	134	247	242		42	22	66	5.0	
	105	1.1		227.1	134	249	243		47	12	66	ده رخی	
4	110	1.0	2.0	231.2		245	252		47	72	66	5.0	<u></u>
	115	1.0	2.0	235.,	134	248	258			72	66	5.0	
Ed	120		-	238.805			~						
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### SAMPLE TRAIN MOISTURE RECOVERY DATA SHEET

Refer	ence Metl	hod / Sa	mpling	Train :		M29 - I	Metals		СРТ			
Recover	red by: 🍊	Sange	rectoice.	Recover	ed by : F-	Songue	dolce	Recover	ed by:	Songue	dolce	
Run No.	CZ-RI	Date : /	119/2010	Run No.	C2-R2	Date :/4)	119/2010	Run No.	C2-R3	Date :/e	119/201	
	dule No. :	N/A		<b>I</b> I	dule No. :	N/A		ll .	dule No. :	N/A		
Filter # :		Tare:	N/A	Filter#:	N/A	Tare:	N/A	Filter # :	N/A	Tare:	N/A	
10	mpinger No.	and Volu	me	Ir	npinger No.	and Volu	me	lt	npinger No	. and Volu	me	
	Initial	Final	Rinse		Initial	Final	Rinse		Initial	Final	Rinse	
No.	(mL)	(mL)	(mL)	No.	(mL)	(mL)	(mL)	No.	(mL)	(mL)	(mL)	
1	0	202		1	0	212		1	0	215		
2	100	156		2	100	152		2	100	165		
3	100	108	100	3	100	106	100	3	100	114	100	
4	0	1	100	4	0	/	100	4	0	4	100	
5	100	100	100	5	100	100	100	5	100	100	100	
6	100	100		6	100	100	100	6	100	100	100	
7	SG	٠.	DIFF :	7	SG		DIFF :	7	SG		DIFF :	
Totals	400	667	267	Totals	400	671	271	Totals	400	648	298	
	Initial	Final	14 5 E.		Initial	Final	हा एक स्थापन व्यापन । उत्तरमानिको समस्य	- 15-3 (1-3-3) - 13-3 (1-3-3)	Initial	Final	ar ar Ak	
	(g)	(g)	DIFF:	Martie.	(g)	(g)	DIFF:		(g)	(g)	DIFF:	
Silica Gel	222.5	237.2	14.7	Silica Gel	223.3	238.7	15.4	Silica Gel	224.6	238.5	13.9	
Final I	Final Net Moisture Gain: 281.7				Net Moisture	e Gain:	286.4		Net Moistur	e Gain:	311.9	

5% HNO3 /10°/2 Ha O3	OLIN HNOS	10% H2504	8.ON HC/	KMN 04
Ricca Chemical	Fisher Chemical	Ricca Chemica 1	Ricco Chem.	Fisher
Lot 2009817	Lot 102519	601 2008321	Lut. 2003675	
exp. 9/2011	exp. 05/2012	exp. 07/2012	exp. 09/2011	
	· · · · · · · · · · · · · · · · · · ·	<u> </u>		
		<del></del> •		
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				······································

Method 26A Sampling Parameters									
Norli	te MACT CI	PT - Test (	Condition	2					
Run No.		C2-R1	C2-R2	C2-R3					
Date		19-Oct-10	19-Oct-10	19-Oct-10					
Start Time	Units	10:58	14:40	17:58					
Stop Time		13:04	16:45	20:02	AVGS				
Nozzle Diameter	inches	0.218	0.218	0.218	0.218				
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79				
Net Sampling Time	min.	120.0	120.0	120.0	120.0				
Volume Metered	dcf	89.567	90.510	90.284	90.120				
Avg. DGM Temp.	°F	61.0	68.2	66.3	65.2				
Avg Delta H	in H ₂ O	1.74	1.76	1.77	1.76				
Avg Delta H	in. Hg	0.1281	0.1293	0.1299	0.1291				
DGM Calibration Factor		1.0160	1.0160	1.0160	1.0160				
Gas Sample Volume	dscf	92.271	91.981	91.896	92.049				
Total Water Collected	mL	276.1	262.8	308.2	282.4				
Volume of Water Vapor	scf	13.018	12.391	14.532	13.314				
Moisture (measured)	% v/v	12.4	11.9	13.7	12.6				
Moisture (@ saturation)	% v/v	14.8	15.2	15.6	15.2				
Dry Mole Fraction, 100-%M		0.8764	0.8813	0.8635	0.8737				
CO ₂ at Stack	% dry	3.90	4.00	4.00	3.97				
O ₂ at Stack	% dry	13.37	15.80	15.80	14.99				
CO + N ₂	% dry	82.73	80.20	80.20	81.04				
Dry Molecular Weight	lb/lb-mole	29.16	29.27	29.27	29.23				
Wet Molecular Weight	lb/lb-mole	27.78	27.93	27.73	27.82				
Excess Air at Stack	%	157.7	294.1	294.1	248.6				
Stack Diameter	inches	48.0	48.0	48.0	48.0				
Stack Area	sq. in.	1809.6	1809.6	1809.6	1809.6				
Static Pressure	in H₂O	0.45	0.45	0.45	0.45				
Stack Pressure ,	in. Hg	29.84	29.84	29.78	29.82				
Avg. Stack Temp.	°F	129.1	130.9	131.8	130.6				
Avg. Sqroot of Delta P		1.0311	1.0330	1.0315	1.0319				
SDE Average		25.027	25.111	25.092	25.077				
Pitot Coefficient		0.84	0.84	0.84	0.84				
Stack Gas Velocity	afpm	3,746	3,748	3,762	3,752				
Stack Flowrate	wet acfm	47,069	47,096	47,279	47,148				
Stack Flowrate	wet scfm	42,077	41,973	41,989	42,013				
Stack Flowrate	dscfm	36,874	36,990	36,256	36,707				
Isokinetics	%	101	100	102	101				
Meter Box No.		808028	808028	808028					
Delta H @	in H₂O	1.834	1.834	1.834					
Field QA Yqc		0.970	0.969	0.973	0.971				
[Deviation] Pre-Y	%	4.51%	4.59%	4.20%	4.43%				

QC DATE INIT

#### Norlite MACT CPT - Test Condition 2

		C2-R1 A	VGS	PM/	HCl / Cl ₂			C2-R2 A	VGS	PM/J	HCl / Cl ₂	er mjest Loge Mil		C2-R3 A	VGS	<b>PM</b> / ]	HCl / Cl ₂	as 1 j. Z
PT	Delta P	SQRT	DGM	DGM	Delta H	STACK	Delta P	SQRT	DGM	DGM	Delta H	STACK	Delta P	SQRT	DGM	DGM	Delta H	STACK
		Delta P	IN	OUT		TEMP		Delta P	IN	OUT		TEMP		Delta P	IN	ן דטס		TEMP
a1	0.98	0.9899	50		1.60	129	1.00	1.0000	58		1.60	131	0.94	0.9695	63		1.60	127
	0.98	0.9899	50		1.60	127	1.00	1.0000	. 58		1.60	131	0.94	0.9695	63		1.50	132
a2	1.10	1.0488	50		1.80	128	1.10	1.0488	60		1.80	131	1.10	1.0488	63		1.80	132
	1.10	1.0488	51		1.80	129	1.10	1.0488	60		1.80	131	1.10	1.0488	63		1.80	132
a3	1.20	1.0954	52		1.90	129	1.10	1.0488	62		1.80	131	1.10	1.0488	64		1.80	131
	1.20	1.0954	53		1.90	129	1.10	1.0488	63		1.80	131	1.20	1.0954	64		2.00	132
a4	1.10	1.0488	55		1.80	128	1.20	1.0954	65		2.00	131	1.10	1.0488	65		1.80	132
	1.10	1.0488	56		1.80	129	1.20	1.0954	66		2.00	131	1.10	1.0488	65		1.80	132
a5	1.00	1.0000	57		1.60	129	1.10	1.0488	68		1.80	131	1.10	1.0488	68		1.80	132
	1.00	1.0000	58		1.60	129	1.10	1.0488	68		1.80	131	1.10	1.0488	67		1.80	132
a6	0.98	0.9899	60		1.60	129	0.93	0.9644	70		1.60	131	1.00	1.0000	68		1.70	132
	0.96	0.9798	60		1.60	129	0.93	0.9644	70		1.60	131	1.00	1.0000	68		1.70	132
b1	0.88	0.9381	62		1.50	127	0.96	0.9798	70		1.60	129	0.95	0.9747	67		1.60	132
	0.88	0.9381	62		1.50	128	0.97	0.9849	70		1.60	131	0.94	0.9695	68		1.60	131
b2	1.10	1.0488	64		1.80	130	1.10	1.0488	71		1.80	131	1.00	1.0000	68		1.70	132
	1.10	1.0488	65		1.80	130	1.10	1.0488	71		1.80	131	1.10	1.0488	68		1.80	132
ь3	1.10	1.0488	66		1.80	130	1.20	1.0954	71		2.00	131	1.10	1.0488	68		1.80	132
	1.20	1.0954	68		2.00	130	1.20	1.0954	71		2.00	131	1.10	1.0488	68		1.80	133
b4	1.10	1.0488	69		1.80	131	1.10	1.0488	72		1.80	131	1.10	1.0488	68		1.80	133
	1.10	1.0488	70		1.80	130	1.10	1.0488	73		1.80	131	1.20	1.0954	68		2.00	132
b5	1.10	1.0488	71		1.80	129	1.00	1.0000	74		1.60	131	1.20	1.0954	67		2.00	132
	1.10	1.0488	72		1.80	130	1.10	1.0488	75		1.80	131	1.10	1.0488	67		1.80	132
b6	1.10	1.0488	72		1.80	130	0.98	0.9899	75		1.60	131	1.00	1.0000	67		·1.70	132
	1.10	1.0488	['] 72		1.80	130	0.98	0.9899	76		1.60	131	1.00	1.0000	67		1.70	132
			Hwhell	i ali														
AVG	1.07	1.0311	61		1.74	129	1.07	1.0330	68		1.76	131	1.07	1.0315	66		1.77	132

10/25/10 CC

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### EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Samuella - Turk - Mathe - 1004 (D11 1101 0 010)	A * A .		IMPINGER VOL'S.	L	Ursat	Ш
Sampling Train Method 26A (PM, HCI & CI2)	Barometric Pressure 2-1-8	LEAK CHECKS in "Hg	INIT. FINAL	RINSE	CO2 O	2
Run Number C2-R1	Static Pressure (+/-) + 0.45	INITIAL VAC. 15 in. CFM OQ10	50	i		=
Client Norlite Corporation	Probe/Pitot Number 175-5-2	MID VAC. in, CFM	100	<del>  </del>		
Facility Location Cohoes, NY	Pitot Coefficient -89	FINAL VAC. 8 in. CFM Q.CIZ		<del>                                     </del>		-
Source Kiln 1 Exhaust Stack	Filter Box No. 148-3	+ -/ + -	0	1 1		
Date October 19, 2010	Meter Box No. 808038	INIT. PITOT U FINAL PITOT	100		<del>                                     </del>	
Operator J. Heartley	Orifice Coefficient (Y) 1.415	FILTER DATA	100	<del>                                     </del>		
Stack Dia in. 48	Delta H @ 1.834	NUMBER TARE	SG	<del>                                     </del>	<del>                                     </del>	
Start Time 1058 {204	Nozzle Size/No. Or 318	T1844 10, 3431 9		<del>                                     </del>	<u> </u>	
Stop Time \$ 158 1304	XAD Thermocouple ID: AUX-1148		SILICA GEL	Final Purge	Rate	
	Imp Outlet TC ID: 47-36		223.3	Final PH		

SAMPLE	CLOCK	VELOCITY	ORIFICE	GAS METER		TE	MPERA	TURE REA	ADINGS, '	'F		PUMP	T HAN T H
POINT	TIME	HEAD	METER VOL.	VOLUME				ORGANIC		GAS	METER	VACUUM	COMMENTS
	METER PLACE	DeltaP, in wo	DeltaH, in we	ft ²	STACK	PROBE	OVEN	MODULE	IMPINGER	IN	OUT	in, Hg	<u> </u>
1 4		0.46	1.10	361, 247	120	35 €	254	306	42	50	NA	3	
5	5	0,49	1.6	305.12	127	357	258	244	37	50	)	3	
⊉ 4	10	¥, (	1.8	<u> ૩૦</u> ૪. 7રે	172	255	256	246	37	50		4	
5	15	1. (	1.8	312.44	129	256	257	346	37	51		4	
7 4	λυ	1.9	1.9	316.21	150	254	254	246	38	52		5	
	25	1.2	1.9	320.07	19.51	256	157	241	38	53		5	
4 9	30 .	1,1	(.8	393.ET	198	257	254	340	3 <i>E</i>	35		45	
5	35~	1.1	1,8	337.64	199	256	959	231	38	56		4.5	
5 9	40	1.0	۱. (۵	331.46	15-7	356	158	240	37	37		3.5	
	45	4.0	ما را	334, 45	129	256	258	રૂપ૦	40	58		3.5	
6 4	50	0.98	1.60	338.58	129	756	254	239	41	60		3.5	-
<u></u> 6	5-5	હ.લંહ	١, ١	342.03	120	757	254	240	41	60		#	
1 4	GC.	38.0	å,S	345. 6U	761	358	258	214	z,	60		3.5	
	65	છે. જ્રષ્ટ	۱.5	349.65	198	355	254	232	34	も入		3, 5	
2 4	70	١.٥	1.8	352.58	130	355	358	237	7	4		5	
6	75	1.1	i. 8	356.32	130	254	೩5೮	<b>λ3</b> [	70	65		5	
3 4	80	1.1	1.8	360.12	130	ā58	260	340	42	66		3.5	· · · · · · · · · · · · · · · · · · ·
5	85	6.3	2.0	364.00	130	256	360	237	43	68		7	
in 9	70	2.1	ર.ક	368.00	131	954	257	237	44	لعظ		ن ن	
Ь	95	1.1	[. 8	371.78	130	₹57	259	236	44	76		6	
5 4	100	1.1	:-B	375.60	190	ચે55	259	334	45	٦١		6	
5	145	1.1	1.8	374.59	130	355	354	233	45	25		6	
6 9	110	4.6	1:8	389.25	130	252	کرون	23 <i>8</i>	45	7 <b>a</b>		6	·
ے	115	1.1	1.8	387.06	130	256	ي در د	234	46	72		Ġ	
210	190			390,864							V		
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### EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

C 11 m 1			IMPINGER VOL'S.	Orsat
Sampling Train Method 26A (PM, HCI & CI2)	Barometric Pressure 29.81	LEAK CHECKS in "Hg	INIT. FINAL RINSE	CO2 O2
Run Number C2 - R2	Static Pressure (+/-) 10.45	INITIAL VAC. 15 in CFM 6 016	50	
Client Norlite Corporation	Probe/Pitot Number MS-5-2	MID VAC. in, CFM	100	
Facility Location Cohoes, NY	Pitot Coefficient 0.84	FINAL VAC. 7 in. CFM 6,002		
Source Kiln 1 Exhaust Stack	Filter Box No. HB 3	+ - + -	0	
Date October 19,2010	Meter Box No. 808628	INIT. PITOT VV FINAL PITOT VV	100	
Operator 3.1tandley	Orifice Coefficient (Y)   616	FILTER DATA	100	
Stack Dia in. 48	Delta H@ (834	NUMBER TARE	SG	
Start Time 1440 1545	Nozzle Size/No. C. 218	'		
Stop Time 1540 1645	XAD Thermocouple ID: AUX つのい		SILICA GEL Final Pur	je Rate
	Imp Outlet TC ID: LI - 26		333.1 Final PH	

SAMPLE	CLOCK	VELOCITY	ORIFICE	GAS METER	_	7.	MDEDA	TUDE DE	ADINIOO G		5.5.7.1	<u> </u>	Jemai Pii
POINT	TIME	HEAD				1	INIPERA	TURE REA	ADINGS,			PUMP	
POINT	LIMIE	DeltaP, in we	METER VOL.	VOLUME		1		ORGANIC			METER	VACUUM	COMMENTS
41.09.4 (0.00.98.48	Startin and	1	DeltaH, in we	ft ²	STACK	PROBE	OVEN	MODULE	IMPINGER	IN	OUT	in, Hg	
1 4	6	1-0	1.6	391.221	131	254	360	204	48	_ 58	<u> </u>		
5	5	<u>l, o</u>	i, la	394, 85	131	354	254	538	40	58	<u> </u>	4	
24	10	1, 1	1.8	398.41	131	351	254	249	40	60		5	
5	15	1.1	1.8	403.13	_1.3\	256	254	250	41	60		5	
3 4	20	1.1	١.8	405.93	131	357	2.59	247	41	62		5.5	
2	35	1.1	1.8	408.92	131	257	260	245	41	63		5.5	
4 5	30	6.1	2.0	413.54	131	257	260	242	41	65		7	
5	35	1.3	3.0	417.58	131	254	254	३५५	42	46		7	
5 a	40	1-1	1.8	421.59	131	253	254	247	43	کون		6	
6	45	1.1	1.8	405.39	131	252	254	247	44	હું ઇ		6	
69	58	0.93	i.6	434.25	131	a58	254	247	44	70		4.5	
5	55	0.93	في ن	432.88	131	257	254	255	44	70		4.5	
14	60	3.96	j.G	436.512	129	257	258	994	46	:70		4.5	
5	65	୦.୩୮	ما ١٠	440.09	131	357	358	237	7	٠٦٥		4.5	
2.4	70	1. 1	1.8	443.71	131	256	354	રેપઢ	74	71	1	5.5	
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34	ŝ	ごグ	٥٥	451.35	131	254	258	937	46	71		4	
ঠ	<b>2</b> 5	1.3	3.0	455,41	131	255	ಎಡರ	333	4.4	71		7	
4 व	ç	1.1	(,8	454.37	131	757	258	<b>33</b> 3	-17	72		65	
5	95	1.1	1.8	463.41	131	<b>⊉5</b> 4	<i>⊋</i> 5 8	234	44	73		4,5	
5 4	160	1.0	نالو	467.31	131	359	256	- 332	49	74		6	
5	105	1-1	1.8	470.64	131	251	259	829	49	75		6.5	
<b>દે</b> લ	110	6,98	1,4	474,50	131	255	259	234	49	75		5,5	
5	115	0.38	١, له	478.08	131	320	258	235	50	76		515	
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### EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

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Sampling Train Method 26A (PM, HC! & CI2)	Barometric Pressure 39.35	LEAK CHECKS in "Hg	INIT. FINAL RINSE	CO2 O2
Run Number 3 C2-R3	Static Pressure (+/-) + 0 -15	INITIAL VAC. 15 in. CFM Q. Q[1	50	
Client Norlite Corporation	Probe/Pitot Number 145-5-2	MID VAC. in. CFM	100	
Facility Location Cohoes, NY	Pitot Coefficient 5-84	FINAL VAC. 4 in. CFM シングラ		
Source Kiln 1 Baghouse Outlet	Filter Box No. 1+3-3	+ +	0	1 1 1
Date October 19, 2010	Meter Box No. 880005	INIT. PITOT VV FINAL PITOT //	100	
Operator J. Hendley	Orifice Coefficient (Y) 1,016	FILTER DATA	100	
Stack Dia in. 52	Delta H @ (1834	NUMBER TARE	SG	
Start Time 1758 1902	Nozzle Size/No. 0,918	11846 0.32695		
Stop Time 1888	XAD Thermocouple IDAXIUS		SILICA GEL Final Purge	Rate
	Imp Outlet TC ID: 45-26		33.8 Final PH	

	Acres our control			Tanp Outlet TC 1D:	2,20						2000 D		Final PH
SAMPLE	CLOCK	- YELOCITY -	ORIFICE	GAS METER		TE	MPERA	TURE RE	ADINGS, °	F		PUMP	
POINT	TIME	HEAD	METER VOL.	VOLUME	grif fyrstaergra ausgefik Lakeri		Janes III	ORGANIC	1 1 1 1 1 1 1 1 1 1 1		METER	VACUUM	COMMENTS
Sincipal School	LOPE CANADA	DeltaP, in we	DeltaH, in we	e e	STACK	PROBE	OVEN	MODULE	IMPINGER	IN	OUT	in, Hg	
1 a	0	0.94	- 1.6	483.888	19.5	25%	261	225	53	63	NH	4	
5	5	0.94	1.5	486.48	133	<b>259</b>	259	237	49	<u>3</u> ک		1 3	
дa	10	1.1	1.8	489.95	(38	257	354	346	પહ	63		1 4.5	
_ σ	15	1.1	1.8	493.69	133	จรา	369	247	49	63		1 3	
3.4	50	1.1	4.8	497.45	131	357	258	३५७	51	હય		13	
٥	25	1.7	2.0	501,23	139	257	259	<u> </u> ጊዛ <b>ይ</b>	57	44		4.5	
46	30	1.1	8.)	<i>5</i> ેડ. સુધ	133	254	254	246	53	65		(5.5	
5	35	1.1	1.8	568.49	132	257	259	246	53	65		3.5	
5.6	મ૦	1. C	1.8	512.78	133	355	258	347	53	66		5.5	
5	45°	1.1	١،8	516.57	132	356	260	348	51	67		\$ 5.5	
69	50	1.0	1.7	520.38	139	256	260	344	48	68		)5	
ь	55	1.0	1.7	524.10	139	257	259	1248	46	48		53	
16	60	0.95	1,6	527.815	132	256	259	336	५8	67	_	1 3	
6	4.5	0.04	7.6	531.37	131	257	259	244	45	68		4.5	
29	70	1.0	1.7	535.01	132	257	254	246	45	48		\$ 5	
5	75	1,1	١.৪	538.43	132	256	261	245	પડ	68		25.5	
3 4	80	1.1	1.8	542. A8	132	256	⊋58	a43	45	68		5.5	
5	85	1.1	1.8	546,79	133	254	259	241	415	68		4	
44	90	1.1	۶.۶	550,10	130	356	258	ર્રયા	45	68		36	
d	75	1.3	2,0	553. 89	132	357	258	241	45	68		17	
5 م	100	1.5	3.0	557.44	132	357	358	242	46	le ['] ገ		17	
<b>b</b>	105	ad	ા. છે	561.96	132	357	259	343	45	67		16	
لغر	uo	1,0	1.7	565. 19	13a	356	₹58	346	45	67		1 5.5	
Ь	(15	1.0	1.7	569,47	ા ક્રેટ્રે	255	260	<del>૩</del> ૫૯	45	47		9.5	
6~9	120		-	573,172							1	1	
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### SAMPLE TRAIN MOISTURE RECOVERY DATA SHEET

Refere	ence Met	hod / Sa	ampling	Train :		M26A	- PM, HC	l and C		СРТ	<b></b>
Recover	ed by :Sang	quecto la	e/Rocck	Recover	ed by : Roe	cK		Recover	ed by : Roc	ck/San	quedok
Run No.	CZ-RI	Date : 10	119/2010	Run No.	CZ-RZ	Date :/0	119/2010	Run No.	C2-R3	Date : /e	119/201
	dule No. :	N/A		XAD Module No. : N/A				XAD Mo	XAD Module No. : N/A		
Filter#:	Teflori	Tare: 0.	34319	Filter # : Teflon Tare: 0.34829				Filter#:	Teflon	Tare: O.	32699
lt	npinger No.	and Volu	me	lr	npinger No.	and Volu	me		npinger No.	and Volu	me
<b>N</b> I-	Initial	Final	Rinse		Initial	Final	Rinse		Initial	Final	Rinse
No.	(mL)	(mL)	(mL)	No.	(mL)	(mL)	(mL)	No.	(mL)	(mL)	(mL)
1	50	220 50	7	1	50	207 48	2	1	50	16	
2	100	135	7130	2	100	138	(125	2	100	162	
3	100	104		3	100	106		3	100	113	105
4	0	8	J	4	0	2		4	0	3	20
5	100	98	216	5	100	98	711	5	100	100	
6	100	97	)	6	100	99		6	100	100	66
7	SG		DIFF:	7	SG		DIFF:	7	SG		DIFF:
Totals	450	712	262.0	Totals	450	698	248	Totals	450	742	292
	Initial (g)	Final (g)	DIFF:		Initial (g)	Final (g)	DIFF:		Initial (g)	Final (g)	DIFF:
Silica Gel	223.3	237,4	14.1	Silica Gel	223.1		14.8	Silica Gel	223.8	240.0	
Final I	Final Net Moisture Gain: 276.1				let Moisture	e Gain:	262.8	Final N	let Moisture	e Gain:	308.2

0.1N H2504	O.IN NOOH	Acetone	1.0N Sodium Thiosulfate
Fisher Seventific	Fisher Scientific	Fisher Scientific	Ricca Chemical
Lot 1006565	Lot 2008229	Lot 102868	Lot 2005627
Ricca Chemical	exp. 7/2012		exp. 1/4011
Ricca Chemical	Ricca Chemical		

AECOM Environment

Sample Shipment Documentation (October 2010 Test)

# Sample Shipment Summary - Norlite Corporation MACT CPT & WS Inlet Testing - October 2010

Sample Description		Packages /	FedEx	Date
(Laboratory)	Analyses	Comments	Airbill #	Shipped
Method 29	Metals	FHR + Imp 4 + Imp1-3 FB		
(TA-Sacramento)		1-DOT(9)	8739 6577 0093	21-Oct-10
Method 29	Metals	Imp 1-3 (5% / 10%)		
(TA-Sacramento)		1-DOT(4)	8739 6577 0108	21-Oct-10
Method 29	Metals	FHR FB + Filters		
(TA-Sacramento)		1-DOT(4)	8739 6577 0119	21-Oct-10
Method 29	Mercury	lmp 5-6 (KMnO4)		
(TA-Sacramento)		1-DOT(4)	8739 6577 0130	21-Oct-10
Method 29	Mercury	HCl Rinse + FB + KMnO₄ FB		
(TA-Sacramento)		1-DOT(9)	8739 6577 0120	21-Oct-10
Method 26A	HCI	lmp 1-4 (H ₂ SO ₄ )		
(TA-Sacramento)		1-DOT(4)	8739 6577 0050	21-Oct-10
Method 26A	HCI & Cl ₂	Field Blanks		
(TA-Sacramento)		1-DOT(4)	8739 6577 0060	21-Oct-10
Method 26A	Cl ₂	Imp 5-6 (NaOH)		
(TA-Sacramento)		1-DOT(4)	8739 6577 0071	21-Oct-10
Method 0023A	D/F	FHR / BHR + FB	8739 6577 0038	
(Vista Analytical)		2-DOT(9)	8739 6577 0049	21-Oct-10
Method 0023A .	D/F	· XAD + Filters	8739 6577 0016	
(Vista Analytical)		2 - Coolers	8739 6577 0027	21-Oct-10
			Page 1 of 2	

# Dangerous Goods Shipment Details - Norlite Corporation MACT CPT & WS Inlet Testing - October 2010

Sample Train	Reagent /		Description
	Fraction	DOT Box Type	of Contents
Method 29	0.1 N HNO ₃	1-DOT(9)	4 - 250-mL FHR (CPT & WS)
			4 - 250-mL Imp 4 (CPT & WS)
			1 - 200-mL lmp 1-3 FB
	5% HNO ₃ / 10% H ₂ O ₂	1-DOT(4)	3 - 950-mL Imp 1-3 (CPT)
			1 - 950-mL lmp 1-2 (WS)
	0.1 N HNO ₃	1-DOT(4)	1 - 300-mL FHR FB
			5 - Filters (CPT & WS)
	10% H ₂ SO ₄ /	1-DOT(4)	3 - 500-mL Imp 5-6 (CPT)
	KMnO₄		1 - 500-mL Imp 4-5 (WS)
	8 N HCI	1-DOT(9)	4 - 250-mL lmp 5-6.(CPT & WS)
	·	·	1 - 225-mL HCl FB
			1 - 100-mL DI FB
			1 - 100-mL KMNO₄ FB
Method 26A	0.1N H₂SO₄	1-DOT(4)	3 - 950-mL lmp 1-4 (CPT)
			1 - 950-mL lmp 1-3 (WS)
	0.1N H₂SO₄	1-DOT(4)	1 - 250-mL H₂SO₄ FB
			1 - 250-mL NaOH FB
		:	1 - 250-mL DI FB
	0.1N NaOH	1-DOT(4)	3 - 500-mL lmp 5-6 (CPT)
			1 - 500-mL lmp 4-5 (WS)
Method 0023A	Acetone / MeCl / Toluene	1-DOT(9)	6 - 250-mL FHR (CPT)
			1 - 250-mL FHR/BHR (WS)
		1-DOT(9)	6 - 250-mL BHR (CPT)
			1 - 250-mL FB
			Page 2 of 2





#### **Detailed Results**

Tracking no.: 873965770050 Select time format: 24H

**Delivered** 

**Delivered** Signed for by: C.VUE

Shipment Dates

Destination

Ship date Oct 21, 2010

Signature Proof of Delivery

Delivery date Oct 22, 2010 09:04

**Shipment Options** 

Hold at FedEx Location

Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type Weight Priority Overnight 6.0 lbs/2.7 kg

Delivered to Reference Shipping/Receiving 60163411-200

**Shipment Travel History** 

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details	•
Oct 22, 2010 09:04	Delivered			
Oct 22, 2010 07:12	On FedEx vehicle for delivery	SACRAMENTO, CA		
Oct 22, 2010 07:08	At local FedEx facility	SACRAMENTO, CA		
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA		
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN		
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN		
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY		·
Oct 21, 2010 15:03	Picked up	MENANDS, NY	**	

I	ed Ex US Airhill Folix 1778 ( 577 785
	Express Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brain Large Brai
1	From Please print and press hard.
	Date 10/21/10 Sender's FedEx Account Number SE 2336 E 1936 WHYER DALY
	Sender's Douglas R. Roeck Phone (978) 589-3255
	company AECOM C/o Norlite Corp.
	Address 628 South Saratoga Street
	City Cohoes State NY ZIP 12047
2	Your Internal Billing Reference 60/6 34/1-p-200
3	To Recipient's Mr. Robert Weidersfeld Phone 916, 374-433
	Company Test America Sacramento
	Address 880 Riverside Parkway  HOLD Weekday Fedex to castion address Produkt Produktion address Produkt Produktion address Produkt Produktion address Produkt Produktion address
	Address Dept/Roor/Suita/Room  ### HOLD Saturday FetSationations  ###################################
	Use this line for the HOLD location address or for continuation of your shipping address.  Fields alley to select occupy.  City West Sacramento State CA ZIP 95605
	M26 A O.1 N Hz504 PKg I
	Try FedEx® QuickShip at fedex-com.  Access the shipping tools you need directly from Microsoft Office Outlook ?

	Sender's Copy
	Colemner Studies
4a Express Package Service • To most locations.	Packages up to 150 lbs.
FedEx Priority Overnight Next business morning. * Fridey shipments will be delivered on Mondey unless SATURDAY Delivery is salacted.  FedEx Standard Overnight Next business afternoon.* Seturday Delivery NOT available.	FedEx First Overnight Earliest next business morning delivery to select locations.*
FedEx 2Day Sacond business day* Thursday shipments will be delivered on Monday urless SAURDAY Delivery is selected.  FedEx Express Saver Saturday Delivery NOT evallable.	
4b Express Freight Service **To most focations.	Packages over 150 lbs.
FedEx 1Day Freight C A L.E. 1 . 8 8 0 be delivered on Monday unless SATURDAY FedEx 1Day Freight Booking No.	.332.0807
FedEx 2Day Freight Second business day.** Thursday shipments will be delivered FedEx 3Day	y Freight day,™ Seturday Delivery NOT available.
5 Packaging *Declared value limit \$500.	
FedEx Pak* Envelope*  FedEx Pak* Includes FedEx Small Pak and FedEx Box	FedEx Other
6 Special Handling and Delivery Signature Options	· · · · · · · · · · · · · · · · · · ·
SATURDAY Delivery NOT availed for FodEx Standard Overnight, FodEx Express Sever, or FodEx:30 ay Freight.	
No Signature Required Package may be left without Someone at recipient's address may sign for delivery. Fee applies.	Indirect Signature If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.
Does this shipment contain dangerous goods?	
Yes Yes	T.
No As per estached Shipper's Declaration. Shipper's Declaration Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC8 Dry IC	N 1845 x kg Cargo Aircraft Only
7 Payment Bill to:	
Sender Enter FedEx Acct. No. or Credit Card No. below.	
A See No is Courton	edit Card Cash/Check
Credit Card No.	Exp. Date
Total Packages Total Weight Total Declared Value	
*Tour fishing is limited to \$100 unless you declare a higher value. See back for details, By using this Airbi agree to the sovice conditions on the back of this Airbill and in the zument Fedex Service Guide, including that limit our fiability.	il you g terms 606
Bay Flate 2/10 - Part #159791 a/21004 2005 Case DEPARTED IN U.C.A. 6004	

SHIPPER'S	DECLARATION F	OR DANGERO	US GOODS			(Provide at least thre	e copies to the	aidine)
Shipper	AECOM c/o Norlit	e Corporation		Air Waybill	No.	8739 6577 0050		
	628 South Sarato	ga Street		Page 1	of 1 Pages			
	Cohoes, NY 12047	7	, ,	Shipper's I	Reference Number	60163411, Task 200		
Consignee	TestAmerica Sacr	amento						
	880 Riverside Par	kway				=ed	<u> </u>	
	West Sacramento	, CA 95605				Cu	<b></b> /	1
Attn:	Mr. Robert Weider	nfeld, (916)-374-	4333			Express		
•	leted and signed co	and signed copies of this declaration			NG	*		
	TRANSPORT DETAILS				to complywid	h all raanaata witi	k the emplim	abla
This shipm	ment is within the			Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the				
	•	Airport of Depart	ure	applica	able law, subje	ct to legal penalti	es.	
PASSENGER	e non-applicable)							
AND CARGO			_					
AIRCRAFT			,				-	
Airport of Do	estination:				Shipme	nt type: (delet	e non-appli	cable)
					NON-RA	DIOACTIVE		
NATURE	AND QUANTITY O	- DANGEROUS	GOODS		<del></del>		· ·	
Dar	ngerous Goods Ider	ntification						
UN or ID					Quantity and type of packaging		Packing	Authorization
No.	Proper Shipping	Name	Class or Division	Packing			Inst.	ļ
			(Subsidiary Risk)	Group	<del> </del>			
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Additional	Handling Informa							
	I declare that all of t	ne applicable air	transport require	ments na	ave been met.		CHECK C	JNE:
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I hereby de	clare that the conte	nts of this consi	onment are full	v and		Name / Title of S	_ ,	
accurately of	described above by	the proper ship	ping name, and	d are		Project Manage		
classified, p	ackaged, marked a	and labeled/plac	arded, and are	in all		Place and Date		
	proper condition fo			ble		Cohoes, NY		
internationa	al and National Gov	ernmental Regu	ulations.			October 2/	<b></b> -	
						Signature	(see warning	y
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Print page | Close



#### **Detailed Results**

Tracking no.: 873965770060

Select time format: 24H

**Delivered** 

**Delivered** Signed for by: C.VUE

Shipment Dates

Destination

Ship date Oct 21, 2010

Delivery date Oct 22, 2010 09:04

Signature Proof of Delivery

**Shipment Options** 

Hold at FedEx Location

Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type Weight Priority Overnight 10.0 lbs/4.5 kg Delivered to Reference Shipping/Receiving

60163411 200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Oct 22, 2010 09:04	Delivered		·
Oct 22, 2010 08:16	On FedEx vehicle for delivery	SACRAMENTO, CA	
Oct 22, 2010 08:09	At local FedEx facility	SACRAMENTO, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

	Express US AITOIII Feder B739 6577 006
1	From Please print and press hard.  Date 10/2/10 Sender's FedEx Account Number \$ 20336 \$ 1936 \$ 1936 \$ 1936
	Sender's Douglas R. Roecic Phone 978, 589-3255
	COMPANY AECOM C/O Norlite Corp.
	Address 628 South Sovatoga Street
	City Cohoes State NY ZIP 12047
2	Your Internal Billing Reference 60163411 -01200
3	To Recipient's Mr. Robert Weidenfeld Phone (916) 374-4333
	company Test-America Sacramento
	Address 880 Riverside Parkway HOLD Weekday Foliation address RECURRENCY RECURRENCY
	We cannot deliver to P.O. boxes or P.O. ZIP codes.  Dept/Floor/Suita/Room  HOLD Saturday Feds. location address  Address  Address  Feds. Incomplete only to Feds. Proceedings of the Feds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedings on the Peds. Proceedin
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	Ship on the go at mobile fedex com.  Tap into all our Fedex shipping tools with Fedex Mobile.

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4a Express Package Service • Yo most locations.	Packages up to 150 lbs
Next business morning,* Friday   Next business afternoon,*	edEx First Overnight adjectnext business morning elivery to select locations.*
FedEx 2Day Second business day.* Thursday shipments vals be delineed on Monday unless SATURDAY Delinery is selected.  FedEx Express Saver Third business day.* Saturday Delinery NOT evallable.	
4b Express Freight Service "To most locations.	Packages over 150 lbs
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FedEx 2Day Freight Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.  FedEx 3Day Freight Third business day.** Setur	day Delivery NOT available.
5 Packaging *Declared value limit \$500.	
	edEx X Other ube
6 Special Handling and Delivery Signature Options	
SATURDAY Delivery NOT available for FedEx Standard Overnight, FedEx Express Sever, or FedEx 3Day Freight.	
obtaining a signature for delivery. — may sign for delivery. Fee applies. addres	'ect Signature ne is avallable et recipient's ss, someone at a neighboring ss may sign for delivery. For ntial deliveries only. Foe applies.
Does this shipment contain dangerous goods?	
One box must be checked.  Yes Yes Shipper's Buclaration Dry Ice Drylce, SUN 1845	x
Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.	Aircraft Only
7 Payment Bill to:	
Sender Acct. No. or Credit Canf Ne. below.  Acct. No. in Section Recipient Third Party Credit Canfucture Conditions Third Party Credit Canfucture Conditions The Condition No.	d Cash/Check
Total Packages Total Weight Total Declared Value [†]	
Our lie bility is limited to \$100 unless you declare a higher velue. See back for details, By using this Airbill you gree to be sente a conditions on the back of this Airbill and in the current FedEx Service Guids, including terms that limit our lie Bully.	POP
Rev. Date 2/10 • Pert #158281 • @1994-2010 FedEx • PRINTED IN U.S.A. SRY	

SHIPPER'S	DECLARATION FOR DANGERO	US GOODS			(Provide at least three	copies to the	airline)
Shipper	AECOM c/o Norlite Corporation		Aîr Waybill	No.	8739 6577 0060		
	628 South Saratoga Street		Page 1	of 1 Pages			
	Cohoes, NY 12047		Shipper's F	Reference Number	60163411, Task 200		
Consignee	TestAmerica Sacramento						
	880 Riverside Parkway				Fed	<b>—</b> 7	
	West Sacramento, CA 95605				Cu	<b>.</b>	
Attn:	Mr. Robert Weidenfeld, (916)-374	-4333			Express		
	leted and signed copies of this dec	laration	WARNIN	IG	<del>-,</del>		
must be handed to the operator.  TRANSPORT DETAILS  This shipment is within the			}				
					all respects with gulations may be		
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		(Subsidiary Risk)	Group				
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Additional	Handling Information					··	
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,	, 55					^_	10/10/11/17
AECOM Ac	count Number	74984					49 CFR
	•						•
					Name / Title of	Signatory	<del>=</del>
I hereby de	clare that the contents of this cons	ignment are ful	ly and		Douglas R. Roe	_	
accurately of	described above by the proper shi	d are		Project Manage			
	packaged, marked and labeled/pla			Place and Date			
	proper condition for transport acco		able		Cohoes, NY		
internationa	al and National Governmental Reg	ulations.			October 21	<del></del>	
					Signature	(see warning	
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Tracking no.: 873965770071

Select time format: 24H

# **Delivered**

**Delivered** Signed for by: C.VUE

Shipment Dates

Destination

Ship date Oct 21, 2010

Delivery date Oct 22, 2010 09:04

Signature Proof of Delivery

## **Shipment Options**

Hold at FedEx Location

Hold at FedEx Location service is not available for this shipment.

## Shipment Facts

Service type Weight Priority Overnight 7.0 lbs/3.2 kg

Delivered to Reference Shipping/Receiving 60163411-200

#### Shipment Travel History

Select time zone: Local Scan Time

Date/Time	Activity	Location	Details
Oct 22, 2010 09:04	Delivered		
Oct 22, 2010 08:16	On FedEx vehicle for delivery	SACRAMENTO, CA	
Oct 22, 2010 08:09	At local FedEx facility	SACRAMENTO, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

Fedex US Airbill Fodex 8739 6577 0071		Sender's Copy
1 From Please print and press hard.  Date 10/21/10 Sender's FedEx Account Number 2336001936 - 10/2001  Sender's Douglos R. ROECK Phone (978) 589-3255	### ### ##############################	Packages up to 150 lbs. FedEx First Overnight Earliest next business morning defivery to select locations.*
Company AECOM c/o Norlite Corp.  Address 628 South Saratoga Street	4b Express Freight Service ** To most locations.  FedEx 1Day Freight Next business day.** Friday chipments will be derivered on Monday unless SATURDAY Delivery is selected.  FedEx 1Day Freight Booking No.	Packages over 150 lbs.
City Cohoes State NY ZIP 12047  2 Your Internal Billing Reference First 24 characters will appear on invoice.  6016 3411—2200	FedEx 2Day Freight Second business day.** Thrussday shipments will be delivered on Monday unless SAUNDAY Delivery is selected.  FedEx 3Day Third business of  FedEx Bay FedEx Pak* Includes FedEx Small Pak and FedEx Box FedEx Box FedEx Box FedEx Box FedEx Small Pak and FedEx Box	/ Freight lay:** Saturday Delivery NOT available.  FedEx Tube  Other
3 To Recipient's Mr. Robert Weidernfeld Phone 916,374-4333  Company Test America Sacramento  Address 880 Riverside Parkway We cannot deliver to P.O. boxas or P.O. ZIP cedes.  Address Address  HOLD Weekday PROF. Not president for Feder First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Durantifort Prof. First Duran	•	Indirect Signature Into one is available at recipients address, someone at an anighboring address may sign for delivery. For residencial deliveries only. Fee applies. IN 1845
Use this line for the HOLD location address or for continuation of your shipping address.  City West Sacramento State CA ZIP 95605  1M26A O.IN NaOH PKg 1  Learn to pack like a pro at ledex com/packaging or let our pros pack for you with FedEx Offices. Pack & Ship.	7 Payment Bill to:  Sender Acc No in Section Recipient Third Party City Card No.  Recipient Total Packages Total Weight Total Declared Value!  10ur liability is limited to \$100 unless you declare a higher value. See back for details, By using this Airt agree to the sense conditions on the back of this Airthill and in the current Feder Service Gaids, including that third corn intolity.	redit Card Cash/Check  Fig. Date  Still you Ig teems

Rev. Date 2/10 • Part #158281 • @1994-2010 FedEx • PRINTED IN U.S.A. SRY

Shipper	DECLARATION I AECOM c/o Nori		,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Air Waybill	No.	(Provide at least three 8739 6577 0071	e copies to the	ainine)
	628 South Sarate	•		Page 1 of 1 Pages Shipper's Reference Number 60163411, Task 200				
	Cohoes, NY 1204	•						
onsignee	TestAmerica Sac			Shippers	Reference (Adminer	60163411, Task 200		
onsignee		•					E,	_
	880 Riverside Pa	-				=ed		
West Sacramento, CA 95605  Attn: Mr. Robert Weidenfeld, (916)-374-4333			1000		<del></del>	•		_
	· · · ·					Express		
Two completed and signed copies of this declaration must be handed to the operator.				WARNIN	iG	,		
	TRANSPORT DETAILS					h all respects with		
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	te non-applicable)	, an port or Boport		арриос	ibio iair, subje	ct to tegal perialti	53.	
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Additional	Handling Inform	ation			l		/ <b></b> _	L
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Emergency	/ Telephone Numb	er <b>1-800</b> -	-535-5053				X	ICAO / IATA
AECOM Ac	count Number		74984				<u> </u>	49 CFR
								40 0110
		·			:	Namo / Title of	Signator:	=:::
I hereby de	clare that the cont	ents of this consid	onment are full	v and		Name / Title of S		
	accurately described above by the proper shipping name, and					Project Manage		
accurately	classified, packaged, marked and labeled/placarded, and are					Place and Date	•	
classified, p	respects in proper condition for transport according to applica International and National Governmental Regulations.					Cohoes, NY		
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Tracking no.: 873965770093 Select time format: 24H

# **Delivered**

Delivered

Signed for by: C.VUE

**Shipment Dates** 

Destination

Ship date Oct 21, 2010 Delivery date Oct 22, 2010 09:04 Signature Proof of Delivery

**Shipment Options** 

Hold at FedEx Location

Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type Weight Priority Overnight 10.0 lbs/4.5 kg Delivered to Reference Shipping/Receiving 60163411-200

Shipment Travel History

Select time zone: Local Scan Time

Date/Time	Activity	Location	Details	
Oct 22, 2010 09:04	Delivered	C CLIMAN V C		
Oct 22, 2010 08:16	On FedEx vehicle for delivery	SACRAMENTO, CA		
Oct 22, 2010 08:09	At local FedEx facility	SACRAMENTO, CA		
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA		
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN		
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN		
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY		
Oct 21, 2010 15:03	Picked up	MENANDS, NY		

		FedEx racking Yumber	739	6577	0093
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	Sender's Douglas R. Roeck	,, 	Phone (	778, 589	-3255
	COMPANY AECOM C/O Nor	lite Ce	rP.		
	Address 628 South Sara	atoga	Stre	et-	Dept/Floor/Suits/Room
	city Cohoes	State A	14 z	P 1204	• • • •
2	Your Internal Billing Reference 60163	5411-	200	>	
3	To Recipients Name Mr. Robert Weider	rfeil	Phone (	716,374	- 4333
	company TestAmerica So	derav	rente	<b>&gt;</b>	
	Address 880 Riverside	2 Pari		J ☐ Fed Pred Fed Fed	LD Weekday Ex location address UIRED, \$10T available for Ex First Overnight
	We cannot deliver to P.O. boxes or P.O. ZIP codes.  Address Use this line for the HOLD location address or for continuation of your shipping ad	denna	Dept/Floor/S	HC Fedi REO Fedi	LD Saturday exiocation address URED. Available ONLY for ex Priority Overnight and ex 20 ey to select locations.
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FedEx 2Day Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.  FedEx Express Saver Third business day.* Saturday Delivery NOY available.	
4b Express Freight Service **To most locations.	Packages over 150 lbs.
Fed Ex 1Day Freight C A L L 1.80 C Next business day.** Friday shipments will be delivered on Mondey unless SATURDAY Ped Ex 1Day Freight Booking No.  Delivary is selected.	332,0867
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5 Packaging • Daclared value limit \$500.	
FedEx FedEx Pak* FedEx Envelope* Includes FedEx Small Pak and FedEx Large Pak.	FedEx Tube
6 Special Handling and Delivery Signature Options	
SATURDAY Delivery NOT exaliable for FodEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.	,
No Signature Required Package may be left without obtaining a signature for delivery, someone at recipient's address may sign for delivery. Fee applies.	Indirect Signature If no one is evaluable at recipients address, someone at a neighboring eddress may sign for delivery. For residential deliveries only. For paylies.
Does this shipment contain dangerous goods?  Gne box must be checked.	
No Yes Shipper's Declaration Dry Ice Dry Ice, 9, 1	UN 1845 x kg
Dangerous goods (including dry Ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.	Cargo Aircraft Only
7 Payment Bill to:	
E_ 444200002	credit Card Cash/Check
Fe/GE/Acet, No. Credit Card No.	Exp. Cate
Total Packages Total Weight Total Declared Value  10 bs s	
¹ Our liability is limited to \$100 unless you declare a higher value. See back for details, By using this Air agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, includit that limit our liability.	trill you and terms
Rev. Date 2/10 • Pert #158281 • @1994-2010 FedEx • PRINTED IN U.S.A. SRY	

Shinner		•	US GOODS	A :- 144 L III			opies to the	arine)
Shipper	AECOM c/o Norli	•		Air Waybill No. 8739 6577 0093  Page 1 of 1 Pages				
-	628 South Sarato	•			-			
	Cohoes, NY 1204			Shipper's F	teference Number 60163411.	Task 200		
Consignee	TestAmerica Sac					_		_
	880 Riverside Pa	-			Fe	a		
West Sacramento, CA 95605  Attn: Mr. Robert Weidenfeld, (916)-374-4333			•			<u> </u>	_	
						oress		<del></del>
Two completed and signed copies of this declaration must be handed to the operator.			WARNIN	IG				
	ORT DETAILS				to comply with all respe			
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Tracking no.: 873965770108

Select time format: 24H

**Delivered** 

Delivered Signed for by: C.VUE

Shipment Dates

Destination

Ship date Oct 21, 2010

Signature Proof of Delivery

Delivery date Oct 22, 2010 09:04

**Shipment Options** 

Hold at FedEx Location

Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type Weight

Priority Overnight 13.0 lbs/5.9 kg

Delivered to Reference

Shipping/Receiving 6016 3411 200

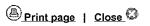
Shipment Travel History Select time zone: Local Scan Time

Date/Time	Activity	Location	Details	
Oct 22, 2010 09:04	Delivered			
Oct 22, 2010 08:16	On FedEx vehicle for delivery	SACRAMENTO, CA		
Oct 22, 2010 08:09	At local FedEx facility	SACRAMENTO, CA		
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Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN		
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN		
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	•	
Oct 21, 2010 15:03	Picked up	MENANDS, NY		

Fe	US Airbill Express US Airbill Number 8739 6577 0108	ा । Sender's Copy
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Send <u>Nam</u>	B Louglas R. Ruck Phone (970) 387-3233	shipments will be delivered on Monday unless SATURDAY Delivery is selected.  Saturday Delivery NOT svallable.
<u>Com</u> Addr	628 South Saratage Street	4b Express Freight Service -To most locations. Packages over 150 lbs.  FadEx 1Day Freight C A 1.1. 1.800.332.0807  Bright 1 Seed of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the service of the servi
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2 You First 24	r Internal Billing Reference 6016 3411 TPT 200	FedEx FedEx Pak* Includes FedEx Small Pak and Box Tube  FedEx Other Tube
3 To Recip Nam	pient's Mr. Robert Weidenfeld Phone (916, 374-4333	Special Handling and Delivery Signature Options     SATURDAY Delivery     NOT Evalidate for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.
<u>Com</u>		No Signature Required Package may be left without obtaining a signature for delivery.  Does this shipment contain dangerous goods?  Direct Signature in doirect Signature in doirect Signature in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tracipier in door sealed a tr
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Rev. Date 2/10 • Pert #158281 • ©1994-2010 FedEx • PRINTED IN U.S.A. SRY

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				Page 1 of 1 Pages Shipper's Reference Number 60163411, Task 200				
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West Sacramento, CA 95605 Attn: Mr. Robert Weidenfeld, (916)-374-4333			}	_			_	
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Tracking no.: 873965770119

Select time format: 24H

# **Delivered**

**Delivered**Signed for by: C.VUE

Shipment Dates

Destination

Ship date Oct 21, 2010 Delivery date Oct 22, 2010 09:04 Signature Proof of Delivery

Shipment Options

Hold at FedEx Location

Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type Weight Priority Overnight 5.0 lbs/2.3 kg

Delivered to Reference

red to Shipping/Receiving

60163411-200

Shipment Travel History

Select time zone: Local Scan Time

Date/Time	Activity	Location	Details	
Oct 22, 2010 09:04	Delivered	*	• • • • • • • • • • • • • • • • • • •	
Oct 22, 2010 08:11	On FedEx vehicle for delivery	SACRAMENTO, CA	· · · · · · · · · · · · · · · · · · ·	
Oct 22, 2010 08:08	At local FedEx facility	SACRAMENTO, CA		
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	-	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	·	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	•	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY		
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3	To Recipient's Mr. Robert Weidenfeld Phone 916 374 - 433
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	Use this line for the HOLD location address or for continuation of your shipping address.  City West Sacramento State CA zip 9560.5
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	Learn to pack like a pro at fedex com/packaging
	Or let our pros pack for you with FedEx Office Pack & Ship

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agree	r liability is limited to \$100 unless you declare a higher value. See back for details. By using this Airbill you ree to the service conditions on the back of this Airbill and in the current Feetler Service Suide, including terms client our liability.	606
Ray, D.	v. Date 2/10 • Part #158281 • @19942010 FedEx • PRINTED IN U.S.A. SRY	

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Shipper	AECOM c/o Norli	,		Air Waybill		,		
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	880 Riverside Pa	rkway			Fed			
	West Sacramente	o, CA 95605						
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		the applicable air	transport require	ements ha	ave been met.	CHECK C	ONE:	
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Tracking no.: 873965770120

Select time format: 24H

**Delivered** 

**Delivered** Signed for by: C.VUE

Shipment Dates

Destination

Ship date Oct 21, 2010

Delivery date Oct 22, 2010 09:04

Signature Proof of Delivery

**Shipment Options** 

Hold at FedEx Location

Hold at FedEx Location service is not available for this shipment.

**Shipment Facts** 

Service type Weight Priority Overnight 9.0 lbs/4.1 kg Delivered to Reference Shipping/Receiving 60163411 200

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Shipment Travel History

Select time zone: Local Scan Time

Date/Time	Activity	Location	Details
Oct 22, 2010 09:04	Delivered		
Oct 22, 2010 08:11	On FedEx vehicle for delivery	SACRAMENTO, CA	
Oct 22, 2010 08:08	At local FedEx facility	SACRAMENTO, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

F	ed US Airbill Fedex B739 6577 0120
1	From Please print and press hard.  Date 10/21/10 Sender's FedEx Account Number 2336 - 1936 - 1908
	Sander's Daylas R. Roeck Phone 978, 589-3255
	company AECOM C/o Norlite Corp.
	Address 628 South Sarataga Street
	city Cohoes State NY ZIP 12047
2	Your Internal Billing Reference GO0163411-200
3	To Recipients Mr. Robert Weidenfeld Phone (916, 374-4333)
	Company Test America Sacramento
	Address 880 River's ide Parkway We cannot deliver to P.O. boxes or P.O. ZIP codes.  Death Room Substitution of P.O. boxes or P.O. ZIP codes.  Death Room Substitution of P.O. boxes or P.O. ZIP codes.
	Address Use this line for the HOLD location address or for continuation of your shipping address.  HOLD Saturdey Fields known address Fields Priority Overnight and Fields Priority Overnight and Fields Priority Overnight and
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Consignee	TestAmerica Sac	ramento						
	880 Riverside Par	rkway				=ed	<b></b> 7	
West Sacramento, CA 95605		o, CA 95605				GU		•
Attn: Mr. Robert Weidenfeld, (916)-374-4333					Express			
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# **Detailed Results**

Tracking no.: 873965770130

Select time format: 24H

# **Delivered**

**Delivered**Signed for by: C.VUE

Shipment Dates

Destination

Ship date Oct 21, 2010

Delivery date Oct 22, 2010 09:04

Signature Proof of Delivery

**Shipment Options** 

Hold at FedEx Location

Hold at FedEx Location service is not available for this shipment.

**Shipment Facts** 

Service type Weight Priority Overnight 10.0 lbs/4.5 kg Delivered to Reference Shipping/Receiving

60163411-200

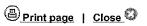
**Shipment Travel History** 

Select time zone: Local Scan Time

Date/Time	Activity	Location	Details	
Oct 22, 2010 09:04	Delivered			
Oct 22, 2010 08:19	On FedEx vehicle for delivery	SACRAMENTO, CA		
Oct 22, 2010 08:09	At local FedEx facility	SACRAMENTO, CA		
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA		
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN		
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN		
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY		
Oct 21, 2010 15:03	Picked up	MENANDS, NY		

F	ed US Airbill Tedex 8739 6577 0130	두 0200 Sender's Copy
1	Express From Please print and press hard.	4a Express Package Service  *To most locations.  FedEx Priority Overnight Next business morning "friday nipments will be delivered on Monday urless SATURDAY Delivery is selected.  FedEx 2Day  FedEx Express Saver
	Company AECOM C/o Norlite Corp.  Address 628 South Sarataga Street	FedEx 2Day Second business day.* Thursday shipmarts will be delivered on Monday unless SATURDAY Dislivery is salucted.  4b Express Freight Service FedEx 1Day Freight Next business day.* Friday shipmarks will be delivered on Monday unless SATURDAY FedEx 1Day Freight  C A J. L 1.800.332.2887 FedEx 1Day Freight Next business day.* Friday shipmarks will be delivered on Monday unless SATURDAY FedEx 1Day Freight Next business day.* Friday shipmarks will be delivered on Monday unless SATURDAY FedEx 1Day Freight Next business day.* Friday shipmarks will be delivered on Monday unless SATURDAY FedEx 1Day Freight Next business day.* Friday shipmarks will be delivered on Monday unless SATURDAY FedEx 1Day Freight Next business day.* Friday shipmarks will be delivered on Monday unless SATURDAY FedEx 1Day Freight Next business day.* Friday shipmarks will be delivered on Monday unless SATURDAY FedEx 1Day Freight Next business day.* Friday shipmarks will be delivered on Monday unless SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight Nox Base SATURDAY FedEx 1Day Freight
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3	To Recipients Mr. Robert Weidenfeld Phone 916, 374-4333	6 Special Handling and Delivery Signature Options  SATURDAY Delivery NOT available for FedEx Stendard Overnight, FedEx Express Seven, or FedEx 3Dey Freight.
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	Try FedEx® OuickShip at fedex.com  Access the shipping tools you need directly from Microsoft's Office Outlook?	Tour liability is limited to \$100 unless you declare a higher value. See beck for details. By using this Arbill you egne to the service couldions on the back of this Arbill and in the current FedEx Service Guide, including terms that limit our fielding.  But Date 2016 Part #159281 + @1109A-2010 FedEx PRINTED IN U.S.A. SRY

SHIPPER'S	DECLARATION I	FOR DANGEROU	S GOODS			(Provide at least the	hree copies to the	airline)
Shipper	AECOM c/o Nori	ite Corporation		Air Waybill	No.	8739 6577 013	30	
	628 South Sarate	oga Street		Page 1	of 1 Pages			
	Cohoes, NY 1204	47		Shipper's R	eference Number	60163411, Task 2	00	
Consignee	TestAmerica Sad	cramento						
	880 Riverside Pa	irkway			•	=ed	<b>—</b> 3	<i>[</i>
West Sacramento, CA 95605								
Attn:	Mr. Robert Weid	enfeld, (916)-374-4	333			Expres	ss	
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Tracking no.: 873965770038

Select time format: 24H

# **Delivered**

**Delivered**Signed for by: R.BURNELL

**Shipment Dates** 

Destination

Ship date Oct 21, 2010

Delivery date Oct 22, 2010 08:45

Signature Proof of Delivery

## **Shipment Options**

#### Hold at FedEx Location

Hold at FedEx Location service is not available for this shipment.

# Shipment Facts

Service type Weight Priority Overnight 8.0 lbs/3.6 kg Delivered to

Shipping/Receiving 60163411 200

Reference 60

#### Shipment Travel History

Select time zone: Local Scan Time

Date/Time	Activity	Location	Details
Oct 22, 2010 08:45	Delivered	•	
Oct 22, 2010 07:38	On FedEx vehicle for delivery	RANCHO CORDOVA, CA	
Oct 22, 2010 06:28	At local FedEx facility	RANCHO CORDOVA, CA	:
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	•
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	•

F	edex US Airbill Tracking 8739 6577 003
1	From Please print and press hard.  Date 10/21/10 Sender's FedEx Account Number 2 & 36 TO 10 FR ONLY
	Sender's Douglas R. Roeck Phone 978, 589-325
	COMPANY AECOM C/6 Norlite Corp.
	Address 628 South Saratega Street
	City Cohoes State NY ZIP 12047
2	Your Internal Billing Reference 60163411 -3-200
3	To Recipient's Ms. Martha Maier Phone (916,673-0114
	company Vista Analytical Laboratory Inc.
	Address 1104 Windfield Way We cannot deliver to P.O. Doxes or P.O. ZIP codes.  HGLD Weekday FedEx location address RECURRED, NOT yearlable FedEx Print Oxenipols. HOLD Saturday
	Address Address Use this line for the HOLD location address or for continuation of your shipping address.  Fields: Find the find the HOLD location address or for continuation of your shipping address.  Fields: Find the find the HOLD location address or for continuation of your shipping address.
	city El Dovado Hills State CA 219 95762
	M23 FH2/BHR PKg 1
	Learn to pack like a pro at fedex:com/packaging

m 0200	Sender's Cop
4a Express Package Service *To most locations.	Packages up to 150 lb
FedEx Priority Overnight Next business morning "Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.  FedEx Standard Overni Next business eitermoon.* Saturday Delivery NOT evailable	Earliest next business morning
FedEx 2Day Say.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.	
4b Express Freight Service - To most locations.	Packages over 150 lb
FedEx 1Day Freight Next business day:* Friday shipments will be delivered on Monday unless SATUHDAY Delivery is selected. FodEx 1Day Freight Booking No.	.500.332.6607
FedEx 2Day Freight Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.  FedE	x 3Day Freight susiness day.** Saturday Oslivery NOT available.
5 Packaging *Declared value limit \$500.	
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6 Special Handling and Delivery Signature Optio	ns
SATURDAY Delivery NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Fe	reight.
No Signature Required Package may be left without obtaining a signature for delivery.	Indirect Signature If no one is available at recipient's address, someone at a religiboring address may sign for delivery. For residential deliveries only. Face applie
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Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.	Cargo Aircraft Only
7 Payment Bill to:	
Sender Enter Fed Ex Acct. No. or Credit Card No.	below
Act No in Section Recipient Third Party	Credit Card Cash/Ched
FedEx Acct, No. Credit Card No.	Date
Total Packages Total Geight Total Declared Value	
lbs. \$00  Tour liability is limited to \$100 unless you declare a higher value. See back for details. By usin agree to the service conditions on the back of this Airbill and in the current FedEx Service Guidi	g this Airbill you e, including terms
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	El Dorado Hills,	-				CU		
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						ACTIVE MATERIAL INTER		





Tracking no.: 873965770049

Select time format: 24H

**Delivered** 

Delivered Signed for by: R.BURNELL

**Shipment Dates** 

Destination

Ship date Oct 21, 2010 Delivery date Oct 22, 2010 08:45

Signature Proof of Delivery

**Shipment Options** 

Hold at FedEx Location

Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type Weight

Priority Overnight 9.0 lbs/4.1 kg

Delivered to Reference

Shipping/Receiving

60163411-200

Shipment Travel History

Select time zone: Local Scan Time

Date/Time	Activity	Location	Details
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Oct 22, 2010 07:38	On FedEx vehicle for delivery	RANCHO CORDOVA, CA	
Oct 22, 2010 06:28	At local FedEx facility	RANCHO CORDOVA, CA	
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Oct 21, 2010 15:03	Picked up	MENANDS, NY	

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3 To Recipient's MS. Mattha Maiet Phone 916, 673-0.  Company Vista Arralytical Laboratory Inc.  Address 1104 Wind field Way We cannot deliver to F.O. boxes or P.O. ZiP codes.  Address Use this line for the HOLD location address or for continuation of your shipping address.	No Signature Required Sequence at recipient's address address, compone at a neighboring address, someone at recipient's address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address, someone at a neighboring address.
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Ship and track packages at fedex.com Simplify your shipping: Manage your account. Access all the tools you need.	Our liability is limited to \$100 onless you declare a higher value. See back for details, By using this Airbill you agree to this service conditions on the back of this Airbill and in the current Fedex Service Guids, including terms that limit our liability.

Ray. Cate 2/10 • Part #159281 • @1994-2010 FadEx • PRINTED IN U.S.A. SRY

hipper	DECLARATION : AECOM c/o Norl			Air Waybill I	No.	8739 6577 0049		
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Tracking no.: 873965770016 Select time format: 24H

**Delivered** 

Delivered Signed for by: R.BURNELL

Shipment Dates

Destination

Ship date Oct 21, 2010

Delivery date Oct 22, 2010 08:45

Signature Proof of Delivery

**Shipment Options** 

**Hold at FedEx Location** 

Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type Weight Priority Overnight 43.0 lbs/19.5 kg Delivered to Reference

red to Shipping/Receiving nce 60163411 200

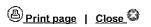
**Shipment Travel History** 

Select time zone: Local Scan Time

Date/Time	Activity	Location	Details
Oct 22, 2010 08:45	Delivered		
Oct 22, 2010 07:45	On FedEx vehicle for delivery	RANCHO CORDOVA, CA	
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Oct 21, 2010 19:15	Left FedEx origin facility	MENANDS, NY	-
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

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Sender's Days/25 R. ROECK Phone (978) 50	87-3255 FadEx Second business St
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Tracking no.: 873965770027

Select time format: 24H

# Delivered

Delivered Signed for by: R.BURNELL

Shipment Dates

Destination

Ship date Oct 21, 2010 Delivery date Oct 22, 2010 08:45

Signature Proof of Delivery

Shipment Options

Hold at FedEx Location

Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type Weight

Priority Overnight 14.0 lbs/6.4 kg

Delivered to Reference

Shipping/Receiving

60163411-200

Shipment Travel History

Select time zone: Local Scan Time

Date/Time	Activity	Location	Details
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Oct 22, 2010 07:37	At local FedEx facility	RANCHO CORDOVA, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	-
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:09	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

F	<b>ed X.</b> US Air	bill FedEx Tracking Number	8739	6577	0027
1		Sender's FedEx Account Number	QB36=1	1936 4	ER DMLY
	Sender's Douglas A	R. Roeck	Phone (	178,589	-32 <u>55</u>
	Company AECOM	clo Non	lite Cor	ρ,	
	Address 628 Soc	eth Sara	rtoga S	street_	Dept/Floor/Sulte/Floorn
	city Cohoes		State NY z	1204	
2	Your Internal Billing Reference First 24 characters will appear on involce.	601634	411-20	0	
3	To Recipient's Ms. MarH	la Maier	Phone {	716,673	-0114
	Company Vista Ana	elytical L	aborato	ry Inc	*
	Address 1104 Wi	nd field		Fed Fed Fed Fed Fed.	DLD Weekday Ex location address DURED. NOT available for Ex First Overnight.
	We cannot deliver to P.O. boxes or P.O. ZIP codes.  Address Lisa this line for the HOLD location address or for continu		Dapt/Roor/S	HC	DLD Saturday Ex location address MURED. Available ONLY for Ex Priority Overnight and Ex 2Day to select locations.
	City El Dorado	1/4/-	State CA Z	957	62
	XAO PKG 2				
		on the go at			

	OZ	00.			Sende	r's Copy
4a	Express Par	kane Servic	e • To most locat	ions	Packaga	s up to 150 lbs.
X	FedEx Priority ( Next business mornin shipments will be deli unless SATURDAY De	Overnight g.* Friday vered on Monday	FedEx Star	ndard Overnight	FedEx Fire	st Overnight business morning sect locations.*
	FedEx 2Day Second business day shipments will be deli unless SATURDAY De	vered on Monday	FedEx Expl Third business Seturday Delive	ress Saver day.* ary NOT svallable.		
4b	Express Fre	ight Service	** To most location	na.	Package	es over 150 lbs.
	FedEx 1Day Fre Next business day.** be delivered on Mono Delivery is selected.	eight Friday shipments will lay unless SATURDAY	FedEx 1Day Freight Bo	CALL 1.800 oking No.	.332.0807	
	FedEx 2Day Fre Second business day on Monday unless SA	eight .** Thursday shipman TURDAY Dalivery is s	ts will be delivered slected.	FedEx 3Da	y Freight day,⇔ Saturday Delivery	NOT evailable.
5	Packaging	* Declared value I				
	FedEx Envelope*	FedEx Pa Includes Fed FedEx Large I	Ex Small Pek and	FedEx Box	FødEx Tube	Other .
6	Special Har	ndling and D	elivery Signa	ture Options		•
	SATURDAY De NOT available for Fe-	livery dEx Standard Overnig	nt, FedEx Express Saver	; or FedEx 30 ey Freight.	•	
	No Signature F Package may be left to obtaining a signature	without	Direct Sign Someone at red may sign for de	lature iplents eddress livery, Fee opplies.	Indirect Sign If no one is evailal address, someone address may sign residential deliver	s et a neighboring
	loos this shipm					
	, Yes	box must be check	Yes	Thu loo		
2		per attached per's Declaration.	Shipper's Declarati not required.	on Dry ice, 9,	UN 1845	kg
orpla	ced in a FedEx Express	Drop Bax.	ped in FedEx packaging		Cargo Aircraft	Jnly
7	Payment B	ill to:				
	Sender Acet No. in Section 1 will be billed. Acet No.	Recipien		Gredit Gard No. below. I Party	Fop.	Cash/Check
	l Packages	Total Weight	Total Declare	d Valuet	Cale	
	1	14				
60188	sbility is limited to \$100 to the service condition mit our liability.	unless you declare a las on the back of this A	higher value. Soe back f	00 or details. By using this Air adEx Service Gulde, Includi	bill you ng terms	-0F

AECOM Environment

**Equipment Calibration Data (October 2010 Test)** 



# **NOZZLE CALIBRATION FORM**

Client: Norlite Corp.		Project #:	60163411, Task 200				
Date: /0/18-19/2	2/O Calibra	ated by:	Fred S	anguedoi	lce		
Nozzle ID #	D ₁ , in.	D ₂ , in.	D ₃ , in.	Delta D, in.	D _{avg} , in.		
M23-1	.226	,224	.226	.002	,225		
M23-2	. 252	.252	. 252	-	.252		
M29-1	.218	.218	,218	-	.218		
M29-2	-253	-253	. 253	-	. 253		
M 26A-1	.216	.216	, 216	j	.216		
M26A-2	. 254	. 254	.254		. 254		
	]						

# Where:

 $D_{1,2,3}$  = Nozzle diameter measured on a different diameter to the nearest 0.001 in.

Delta D = Maximum difference between any two measurements, in.

Tolerance = 0.004 in.

 $D_{avg} = Average of D_{1,2,3}$ 

G:\Personal\Work\[NozzieCalibFormNorlite.xlsx]A

# AIBCOMATELABOTATORY OFFICE MBWZGBARGABARKA

Balance Used: Mettler 3

Page #

100

**Analysis Method:** 

24 Higgselesiceation

<u>or</u>

**Oven Dried Method** 

ទេចក្តីព្រះស្រាញ	Day (Par	. Cale	ele alline ; e	in the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of th		Aintily (
Start	Wednesday	10/13/10	11:14	34	73	AC
Weight 1	Thursday	10/14/10	11:57	34	74	AC
Weight 2	Friday	10/15/10	09:13	36	72_	4/
Weight 3	/					
Weight 4				<del>                                     </del>		<u> </u>

2. Filters must be properly conditioned (24-hour desiccation period; further conditioning ≥8 hours).

5.  $\Delta$ weight tolerance =  $\pm 0.0005$  g between consecutive weights for each filter.

3. For oven-dried method, filters are put into a 105°C oven for 3 hrs followed by 2 hours in desiccator. 4. Filters must be weighed under proper room conditions (R.H.= 25-50% and Temp.= 59-78°F).

	arana.		CONTRACTOR			EN SULT TO A VIEW OF				
File:#				MSZKU Sakstanis			5 11 1 V 2 1 3 1		on a EVV Line	
T1844	90 mm	0.3431	0.3431	_					Grafie	
T1845	90 mm	0.3482	0.3482	0.0000					0.3431	<u> </u>
T1846	90 mm	0.3269	0,3269	0.0000				· · · · · · · · · · · · · · · · · · ·	0.3482	70
T1847	90 mm	0.3474	0,3475	0.0001		·			0.3269	NURLITE
T1848	90 mm	0.3380	0.3380	0.0000		· ·			0.3387	07(2) (0
⊁T1849	90 mm	0.3098	0.3096	-0.0002					0.3097	<del></del>
<b> ⊁T1850</b>	90 mm	0.3076	0.3076	0.0000					0.3076	
T1851	90 mm	6.3429	0.3429	0.0000			<del></del>		0.34297	
T1852	90 mm	0.3446	0.3445	-0.0001					0.3446	TO
T1853	90 mm	0.3442	0.3442	0-0000					0.3442	
T1854	90 mm	0.3478	0.3478	0-0000					0.3478	NORLITE
T1855	90 mm	0.3398	0.3399	0.0001				·	0,3399	
T1856	90 mm	0.3474	0.3474	0.0000					0.3474	
T1857	90 Mm	0.3364	0,3362	-0.0002					0,3363	
Filter Type	Glass	L Toron	Ounda		4 Ciltoro muo	ha for after hal	es, tears, lumps, or			

Manufacturer:__Pallflex_

Batch/Lot Number:__T12418BW Inspected by:__A. Carpenito_

* Lot Number for T1849, T1850 = T9902CW

Desiceutor #3 (indicator: purple)

NEICVP1120E01 R:\AirDBase\M5DB\Method 5 Database\cleanfilter-052705.xis

aly whisho



Norlite, LLC Cohoes, New York

# DRY GAS METER CALIBRATION

Meter Box No.:

80612

Check one:

Annual Calibration

Х

Recalibration

Date:	1/9/2010		
Operator:	Jarrod Hendley		
Barometric P	ressure:	29.60	(in Hg)
Theoretical C	critical Vacuum:	13.96	(in Hg)

 Manufacturer:
 Anderson NUTECH

 Date Received/Placed in service:
 Pre 1990

 Serial No.:
 80612

Pretest Leak Checks					
	Allowable	Actual			
Positive	0	0.00			
(at 5 - 7 in. H₂O)	in. H₂O per min.				
Negative	0	0.000			
(at 3 in. Hg)	cfm	cfm			

DRY GAS METER DATA								CRITICAL ORIFICE DATA				
	į		Volume		Te	тр	Critical	K' Orifice	Actual	Ambi	ient Tempe	rature
ΔΗ	Time	Initial	Final	Total	Initial	Final	Orifice	Calibration	Vacuum	Initial	Final	Average
(in H₂O)	(min)	(ft³)	(ft³)	(ft³)	٦º	°F	Serial #	Coefficient	(în Hg)	٩F	٥F	°F
0.28	20	790.900	797.038	6.138	70	71	40	0.225	15	66	66	66
1.00	15	803.500	812.129	8.629	74	75	52	0.427	15	66	66	66
1.90	15	819.300	830.705	11.405	77	77	63	0.562	15	66	66	66
3.90	10	843.800	855.131	11.331	78	79	76	0.831	15	66	66	66

CORRECTED VOLUME				
Dry Gas	Critical			
Meter	Orifice			
Vm (std ft ³ )	Vcr (std ft ³ )			
6.046	5.813			
8.450	8.266			
11.142	10.882			
11.093	10.724			

DRY GAS METER					
CALIBRATION					
FACTOR Y					
0.962	-0.009				
0.978	0.01				
0.977	0.01				
0.967	0.00				

DRY GAS METER					
CALIBRATION					
FACTOR ∆H@					
1.864	-0.049				
1.852	-0.062				
2.031	0.117				
1.908	-0.01				

Avg. Y 0.971

Avg. ∆H@ 1.914

Notes:

- 1) For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.
- 2) The Critical Orifice Coefficient, K', must be entered in English units, (ft) '3' (deg R)'0.5/((in.Hg)'(min)).
- 3) The minimum number of sample volume required per orifice is 5 cubic feet.
- 4) For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the av
- 5) For Orifice Calibration Factor  $\Delta H$ @, the crifice differential pressure in inches of  $H_2 0$  that equates to 0.75 cfm of air at 68 F and 29.92 inches of  $H_3 = 0.00$

acceptable tolerance of individual values from the average is  $\pm\,0.2.$ 

Dry Gas Meter Thermocouple Calibration						
Ref. TC ID#	HH81	Inlet ID#:	80612-IN	Outlet ID#	80612-OUT	
Ref. Source	Ref, °F	%	Δ	٥Ŀ	Δ	
Amb. Air	66	66	0	66	C	
Hot Water	111	11	100	110	-1	

Potentiometer Calibration						
Low	50 °F	51				
Mid	450 °F	451				
Hiah	950 °F	949				

Notes:

- 1) Hot Water to be in the range of 104 122 °F.
- 2) Tolerance allowed for all thermocouple individual readings :  $\pm$  5.4  $^{\circ}\text{F}$
- 3) Tolerance allowed for all potentiometer individual readings : ± 2 °F

$$V_{m(nt)} = 17.64 \left(V_m\right) \frac{P_b + \frac{\Delta H}{13.6}}{t + 460}$$

$$V_{cr(ud)} = K' \frac{P_b \theta}{\sqrt{l_{cub} + 460}}$$

$$Y = \frac{V_{\sigma (sd)}}{V_{m(std)}}$$

$$\Delta H_{@} = \Delta H \left( \frac{.75\theta}{V_{cr(nd)}} \right)^{2}$$

# DRY GAS METER CALIBRATION

Meter Box No.:

80102

Check one:

Annual Calibration

Х

Recalibration

Date:	1/6/2010		
Operator:	Jarrod Hendley		
Barometric F	Pressure:	29.30	(in Hg)
Theoretical (	Critical Vacuum:	13.82	(in Hg)

 Manufacturer:
 Anderson NUTECH

 Date Received/Placed in service:
 Pre 1990

 Serial No.:
 80102

Pretest Leak Checks								
	Allowable	Actual						
Positive	0	0.00						
(at 5 - 7 in. H ₂ O)	in. H ₂ O	per min.						
Negative	0	0.000						
(at 3 in, Hg)	cfm	cfm						

	DRY GAS METER DATA							CAL ORIFI	CE DATA			
			Volume	•	Te	тр	Critical	K' Orifice	Actual	Amb	ient Tempe	rature
ΔН	Time	Initial	Final	Total	Initial	Final	Orifice	Calibration	Vacuum	Initial	Final	Average
(in H ₂ O)	(min)	(ft ³ )	(ft³)	(ft ³ )	°F	° _F	Serial #	Coefficient	(in Hg)	°F	°F	°F
0.26	20	780.700	786.750	6.050	73	75	40	0.225	15	66	67	67
0.99	15	766.600	775.033	8.433	75	75	52	0.427	15	66	67	67
1.80	15	860.500	871.778	11.278	78	79	63	0.562	15	67	67	67
4.00	11	837.000	849.140	12.140	75	78	76	0.831	15	67	67	67

CORRECTED VOLUME					
Dry Gas	Critical				
Meter	Orifice				
Vm (std ft ³ )	Vcr (std ft ³ )				
5.860	5.751				
8.167	8.179				
10.874	10.761				
11.813	11.666				

DRY GA	S METER
CALIBE	RATION
FACTO	DR Y
0.982	-0.009
1.001	0.01
0.990	0.00
0.988	0.00

DRY GAS METER				
CALIBR	ATION			
FACTOR	R∆H@			
1.769	-0.134			
1.873	-0.029			
1.967	0.065			
2.001	0.10			

Avg. Y 0.990

Avg. \( \Lambda H@ \) 1.902

#### Notes:

- 1) For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.
- 2) The Critical Orifice Coefficient, K', must be entered in English units, (ft)^3*(deg R)^0.5/((in.Hg)*(min)).
- 3) The minimum number of sample volume required per orifice is 5 cubic feet.
- 4) For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is ±0.
- 5) For Orifice Calibration Factor  $\Delta$ H@, the orifice differential pressure in inches of  $H_2$ 0 that equates to 0.75 cfm of air at 68 F and 29.92 inches of  $H_3$ 0, the orifice Calibration Factor  $\Delta$ H@, the orifice differential pressure in inches of  $H_2$ 0 that equates to 0.75 cfm of air at 68 F and 29.92 inches of  $H_3$ 0.

acceptable tolerance of individual values from the average is ± 0.2.

Dry Gas Meter Thermocouple Calibration							
Ref. TC ID#	HH81	Inlet ID#:	80102-IN	Outlet ID#:	80102-OUT		
Ref. Source	Ref, °F	°F	Δ	°F	Δ		
Amb. Air	67	66	1	66	-1		
Hot Water	112	111	1	112	0		

Potentiometer Calibration							
Low	50 °F	49					
Mid	, 450 °F	450					
High	950 °F	951					

Notes:

- 1) Hot Water to be in the range of 104 122 °F.
- 2) Tolerance allowed for all thermocouple individual readings : ± 5.4 °F
- 3) Tolerance allowed for all potentiometer individual readings: ± 2 °F

$$V_{w(sol)} = 17.64 (V_m) \frac{P_b + \frac{\Delta H}{13.6}}{t_m + 460}$$

$$V_{cr(sid)} = K' \frac{P_b \theta}{\sqrt{t_{amb} + 460}}$$

$$Y = \frac{V_{cr(sid)}}{V_{m(sid)}}$$

$$\Delta H_{@} = \Delta H \left( \frac{.75\theta}{V_{cr(std)}} \right)^{2}$$

# DRY GAS METER CALIBRATION

Meter Box No.:

0808028

Check one:

Annual Catibration

Х

Recalibration

Date:	12/22/2009		
Operator:	Ryan Burns		
Barometric Pr	essure:	29.65	(in Hg)
Theoretical Co	ritical Vacuum:	13.99	(in Hg)

 Manufacturer:
 Apex Inst.

 Date Received/Placed in service:
 2008

 Serial No.:
 0808028

Pretest Leak Checks								
	Actual							
Positive	0	0.00						
(at 5 - 7 in. H₂O)	O per min.							
Negative	0	0.00						
(at 3 in. Hg)	cfm	cfm						

	DRY GAS METER DATA							ICAL ORI	FICE DATA			
		Volume Temp				Critical	K* Orifice	Actual	Ambi	ent Tempe	rature	
ΔН	Time	Initial	Final	Total	initial	Final	Orifice	Calibration	Vacuum	Initial	Final	Average
(in H ₂ O)	(min)	(ft³)	(ft³)	(ft³)	°۴	%=	Serial #	Coefficient	(in Hg)	°F	°F	°F
0.29	20	204.100	209.978	5.878	71	74	40	0.225	15	65	65	65
0.98	15	216.800	225.130	8.330	77	80	52	0.427	15	65	65	65
1.70	15	233.200	244.247	11.047	82	83	63	0.562	15	65	65	65
3.70	10	255.700	266.684	10.984	85	86	76	0.831	15	65	65	65

CORRECTED VOLUME					
Dry Gas	Critical				
Meter	Orifice				
Vm (std ft ³ )	Vcr (std ft ³ )				
5.778	5.828				
8.110	8.288				
10.695	10.911_				
10.628	10.752				

DRY GAS METER			
CALIBRATION			
FACTOR Y			
1.009	-0.007		
1.022	0.01		
1.020	0.00		
1.012	0.00		

DRY GAS METER			
CALIBRATION			
FACTOR ∆H@			
1.921	0.087		
1.806	-0.028		
1.807	-0.026		
1.800	-0.03		

Avg. Y 1.016

Avg. \( \Delta H@ \) 1.834

Notes:

- 1) For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.
- 2) The Critical Orifice Coefficient, K', must be entered in English units, (ft)/3*(deg R)/0.5/((in.Hg)*(min)).
- 3) The minimum number of sample volume required per orifice is 5 cubic feet.
- 4) For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is ±0.02
- 5) For Orifice Calibration Factor  $\Delta H$ @, the orifice differential pressure in inches of  $H_2 0$  that equates to 0.75 cfm of air at 68 F and 29.92 inches of  $H_3 0$ ,

acceptable tolerance of individual values from the average is  $\pm\,0.2.$ 

Dry Gas Meter Thermocouple Calibration						
Ref. TC ID#	2131035	Inlet ID#: 0808028-INOutlet ID#:				
Ref. Source	Ref, °F	°F	Δ	°F	Δ	
Amb. Air	70	70	0			
Hot Water	110	110	0			

Potentiometer Calibration					
Low	50 °F	50			
Mid	450 °F	448			
Hiah	950 °F	950			

Notes:

- 1) Hot Water to be in the range of 104 122 °F.
- 2) Toterance allowed for all thermocoupte individual readings :  $\pm$  5.4  $^{\circ}\text{F}$
- 3) Tolerance allowed for all potentiometer individual readings ;  $\pm\,2\,^{\circ}\text{F}$

$$V_{m(nt)} = 17.64 \left( V_m \right) \frac{P_k + \frac{\Delta H}{13.6}}{t_n + 460}$$

$$V_{cr(std)} = K' \frac{P_b \theta}{\sqrt{t_{amb} + 460}}$$

$$Y = \frac{V_{cr(ud)}}{V_{m(sd)}}$$

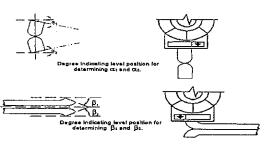
$$\Delta H_{\mathcal{Z}} = \Delta H \left( \frac{.75\theta}{V_{cr(std)}} \right)^2$$



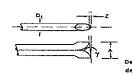
# SAMPLE PROBE CALIBRATION DATA FORM TYPE "S" PITOT TUBE ASSEMBLY AND NOZZLE

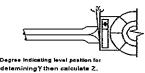
			1						***************************************		ratio						<u> </u>
PROBE ID:		Reference Thermometer ID #:			Omega HH-f	81			Omega	CI1000, #06	022200			Omega	Ci1000, #06	3022200	
	M5-5-F		loe Bath					Boiling Water					Tube Furnace (300" - 500" F)				
		Themoseum side	Reference IC	Paterance TC		10 ferre	Temp Diferense	Parloment TO	Helence 10 14	Tere Tere	TG Temp FR	Time Difference \$1185	Fallers con TC ***	Neter-ce TO	TOTAL TOTAL	TG Temps Ye	Team Offensera e 18%
Date:	1/21/2010		33	274	34	274	1	212	373	210	372	-0.3	450	505	449	505	-0.1
		M5-5-F	33	274	34	274	1	212	373	210	372	-0.3	450	505	448	504	-0.2
Ambient Temperature (*F):	67		33	274	34	274	1	212	373	211	373	-0.1	450	505	448	504	-0.2
Berometric Pressure (in Hg)	29.85	Average	33	274	34	274	1	212	373	210	372	-0.2	450	505	448	504	-0.2

# Type "S" Pitot Tube Calibration:



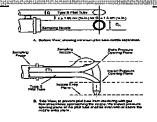


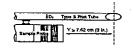


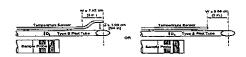


Level and Perpendicular Obstruction Damaged	Yes No No
$\alpha_1$ (-10° $\leq \alpha_1 \leq + 10$ °)	2
$\alpha_2  (-10^{\circ} \le \alpha_2 \le +10^{\circ})$	0
$\beta_1  (-5^{\circ} \le \beta_1 \le +5^{\circ})$	0
$\beta_2  (-5^\circ \le \beta_2 \le +5^\circ)$	0
γ	1
Θ	1
z = A Tanγ(±≤ 0.125")	0.015
W = A Tan⊖ (±≤ 0.03125")	0.015
$D_1$ (3/16 $\leq D_1 \leq 3/8$ ")	0.374
A	0.84
$A/2D_t$ (1.05 $\leq P_A/D_t \leq 1.5$ )	1.123

### Pitot Tube to Nozzle Calibration:







F			PROF Tube to Notate Calibration	
1	1) Pitot to nozzle separation	×	>3/4" (w/.500 nozzie)	0.875
ŀ	2) Thermocouple to pilol separ	z	>3/4"	2.232
ŀ	3) Pitat end to probe union dis	Υ	>3.0*	3,320_

### Probe Information

Manufacturer: Apex Date Received and placed in Service: pre-1995 Condition of Probe when placed in service: NEW U	SED RECONDITIONED (circle one)		
QA/QC Check Comploteness _X_ Legibility _X_	Accuracy _X_	SpecificationsX_	Reasonableness _X
I certify that the Type S pitot tube/probe ID#M5-S-F criteria and/or applicable design features and is hereby assig			
Certified b <u>y: Ryan Burns 1-21-10</u> Personnel (Signature/Date)	Ryai Team Leader (Sk	n Burns 1-21-10 gnature/Dale)	
All construction criteria for an isolated "5" type pitot are within Quality Assurance Handbook for Air Pollution Measurement: EPA/600/R-94/038c, September 1994		is.	
rev 06/PS			
NOTES:			

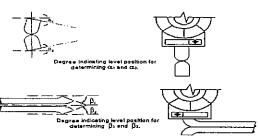
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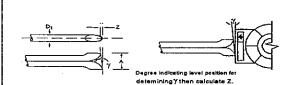
# SAMPLE PROBE CALIBRATION DATA FORM TYPE "S" PITOT TUBE ASSEMBLY AND NOZZLE

							The	rmoc	ouple	Calib	ratio	1					
	ROBE ID:	Reference Thermometer ID #:			Omega HH-8		,	Omega Cl1000, #06022200					Omega Cl1000, #06022200				
M5-5-H			ice Bath					Boiling Water					Tube Furnace (300* - 500* F)				
<u> </u>		Themsexuple (SF	Reference IC	Reference 19	IC Temp	IC Terro	Temp Difference 4 %	Parlamencar TC	Helitaka IC 'K	TO Temp	10 117 1	Tene Concresse 2 175	Reference 300	Reference TC 1	ro Imp	TC Sense V K	Term Offmanos 1175
Date:	1/26/2010		33	274	34	274	1	212	373	213	374	0.1	450	505	448	504	-0.2
		M5-5-H	33	274	34	274	1	212	373	213	374	0.1	450	505	448	504	-0.2
Ambient Temperature (°F)	67		33	274	34	274	1	212	373	213	374	0.1	450	505	449	505	-0.1
Barometric Pressure (in Hg).	29.3	Average	33	274	34	274	1	212	373	213	374	0.1	450	505	448	504	-0.2
	<u>.</u>			<u> </u>	<u> </u>		1	a			· · · · · · · · · · · · · · · · · · ·		<u>.                                    </u>				

# Type "S" Pitot Tube Calibration:

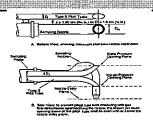




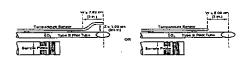


		1.00.00.00.00.00.00.00.00.00.00.00.00.00
Level and Perpendicular Obstruction	Yes No	
Damaged	No No	
Damageo	INU	
$\alpha_1$ (-10° $\leq \alpha_1 \leq + 10$ °)	2	
$\alpha_2$ (-10° $\leq \alpha_2 \leq +10^\circ$ )	0	
$\beta_1  (-5^\circ \le \beta_1 \le +5^\circ)$	3	
$\beta_2  (-5^\circ \le \beta_2 \le +5^\circ)$	0	
γ	1	
Θ	0	
z = A Tanγ(±≤ 0.125")	0.016	
W = A Tan⊕ (±≤ 0.03125")	0.000	
$D_t$ (3/16 $\leq D_i \leq 3/8$ ")	0.375	
A	0.93	
$A/2D_t$ (1.05 $\leq P_A/D_t \leq 1.5$ )	1.240	

### Pitot Tube to Nozzle Calibration:







		Pitot Tube to Nozzle C	sibretton:	
1) Pitot to nozzle separation	x	>3/4" (w/.500 nozzie)	1.1	
2) Thermocouple to pitot separ	z	>3/4"	1.463	
3) Pitot end to probe union dis	Y	>3.0*	3.569	

# Probe Information

Manufacturer:	Apex			_		
Date Received and placed in Service:	pre-19	95				
Condition of Probe when placed in service	NEW	USED	RECONDITIONED (circl	cle one)		
QA/QC Check						
CompletenessX Legibility	_x_		Accuracy _X_		SpecificationsX_	ReasonablenessX
I certify that the Type S pitot tube/probe ID criteria and/or applicable design; features a			meets or exceeds all ot tube calibration factor C _p c			
Certified by: Ryan Sums 1-28-1-3				Ryan Burns 1-29-10		_
Personnel (Sign:ature/Date	)			Team Leader (Signature/Date)		
All construction criteria for an iscalated "S" t Quality Assurance Handbook for Air Polluti EPA/600/R-94/038c, September 1994				urce-Specific Methods.		
rev 06/PS						
NOTES:						

NEICVP1120E01

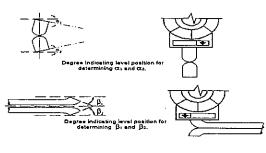
Appendix CAA A Page 938 of 1159 Norlite, LLC Cohoes, New York



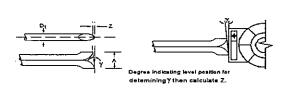
# SAMPLE PROBE CALIBRATION DATA FORM TYPE "S" PITOT TUBE ASSEMBLY AND NOZZLE

						The	rmoc	ouple	Calib	ratio	n						
PROBE ID:	Reference Thermometer ID #:		Omega HH-81 Omega Cl1000							Cl1000, #06022200			Omega Cl1000, #08022200				
NE 6 7				ice Bath					Boiling Water								
M3-3-Z	Thermosous CF	Personal TC	Represent TO THE	Idae IC	1¢ Ta∺p *k	Yees Debrama A2	Reference 10 16	Pelerence IC	ig Igr	io Perp	Terro Ottomore 110%	Reference TO	Setement 10 15	π. Jena sy	E.	Temp Odlanica 1105	
1/21/2010		32	273	33	274	1	212	373	211	373	-0.1	450	505	449	505	-0.1	
	M5-5-Z	32	273	33	274	1	212	373	212	373	0.0	450	505	449	505	-0.1	
etura 67		32	273	33	274	1	212	373	211	373	-0.1	450	505	449	505	-0.1	
1ura 29.85	Avenge	32	273	33	274	1	212	373	211	373	-0.1	450	505	449	505	-0.1	
	PROBE ID:  M5-5-Z  1/21/2010  67	PROBE ID: Raterencs Thermometer ID #:  M5-5-Z  1/21/2010  M5-5-Z  abuse 67	PROBE ID: Reference Thermometer ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID 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Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #: Provided ID #	PROBE ID: Raference Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: Personal State of Thermometer ID #: 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Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath See Bath S	PROBE ID: Raterince Thermometer ID #: Omega HH-81	PROBE ID: Raference Thermometer ID #	PROBE ID: Reference Themporele ID #: So Ball Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service Service 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# Type "S" Pitot Tube Calibration:

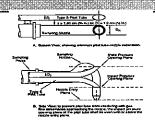




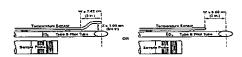


Level and Perpendicular Obstruction Damaged	Yes No No
$\alpha_1$ (-10° $\leq \alpha_1 \leq +10^\circ$ )	0
$\alpha_2  (-10^{\circ} \le \alpha_2 \le +10^{\circ})$	0
$\beta_1  (-5^{\circ} \le \beta_1 \le +5^{\circ})$	1
$\beta_2  (-5^{\circ} \le \beta_2 \le + 5^{\circ})$	0
γ	0
0	0
$z = A Tan y (\pm \le 0.125")$	0.000
W = A Tan⊕ (±≤ 0.03125")	0.000
$D_t$ (3/16 $\leq D_t \leq 3/8$ ")	0.375
Α	0.935
$A/2D_t$ (1.05 $\leq P_A/D_t \leq 1.5$ )	1.247

### Pitot Tube to Nozzle Calibration:







133	ta tueto acida filmate da da		Pitor Tube to Nozzie Gallbration	
ı				
10	Pitot to nozzle separation	X	>3/4" (wf.500 nozzle)	0,95
2)	Thermocouple to pitot sepai	z	>3/4"	1.57
3)	Pitot end to probe union dis	Y	>3.0*	3.400

### Probe Information

Manufacturer:	Apex						
Date Received and placed in Service:	pre-1	995					
Condition of Probe when placed in service	e: NEW	USED	RECONDITIONED (circle one)				
i							
QA/QC Check							
Completeness _X_ Legibili	уX		AccuracyX_		SpecificationsX		ReasonablenessX
I certify that the Type S pitot tube/probe criteria and/or applicable design features				ons,			
Certified by: Ryan Burns 1-21-10 Personnel (Signature/Da	te)		Team Lea	Ryan Burns 1-21-10 ader (Signature/Date)			•
All construction criteria for an isolated "S Quality Assurance Handbook for Air Poll EPA/600/R-94/038c, September 1994				Methods.			
rev 06/PS							
NOTES:							
			•			•	
ſ							

NEICVP1120E01



# **Method 5 Filter Thermocouple Calibration**

Calibrator: Jarrod Hendley

Reference Thermometer:

Fluke RTD Serial # 2131035

Calibration Date: 1-11-10

OMEGA CL 1000

Date Received/placed in Service:

10/31/03 P

PO: 2014950

Serial No.:

N/A

Manufacturer's Name:

Apex Instruments Part No.: GN8-15K

Thermocouple ID		Ice Bath			Boiling Wat	er
(Part ID)	Actual	Reference	Difference	Actual	Reference	Difference
M5TC-1	33	32	1	213	212	1
M5TC-2	33	32	1	212	212	0
M5TC-3	33	32	1	213	212	1
M5TC -4	32	32	0	213	212	1
M5TC-5/AUX-90	33	32	1	212	212	0
M5TC-6/AUX-79	33	32	1	213	212	1
M5TC-7/AUX-81			0			0
M5TC-8/AUX-86			0			0
M5TC-9/AUX-84	32	32	0	212	212	0
AUX-85			0		·	0
AUX-451	33	32	1	214	212	2
AUX-452	33	32	1	213	212	1
AUX-455	* *		0			0
AUX-457			0			0
AUX-460			0			0
AUX-464	·		0			0
AUX-465			0			0
AUX-728	33	32	1	212	212	0
AUX-730	32	32	0	213	212	1
AUX-1146	33	32	1	211	212	-1
AUX-1147	34	32	2	211	212	-1
AUX-1148	33	32	1	212	212	0
AUX-1151			0			0
AUX-1154	32	32	0	212	212	0
AUX-1156	33	32	1	210	212	-2
AUX-2086	33	32	1	213	212	1
AUX-2807	33	32	1	211	212	-1
AUX-2808	33	32	1	210	212	-2
AUX-2809	33	32	1	210	212	-2
AUX-2124	33	32	1	212	212	0
M5-1	33	32	1	213	212	1
M5-2	33	32	1	213	212	1

#### NOTES:

Replaced heat shrink tubbing on M5TC-1-3, Feb 05 Replaced M5TC-1 Plug on 11/14/05 at BASF M5TC-8/AUX-86 not available (possibl;y missing)



### **XAD Thermocouple Calibrations**

Date: 1-12-10

Calibrator: Jarrod Hendley

BP: 29.93

Ambient Temp (F): 67

Reference Thermometer ID#:

HH-81

Manufacture:

Omega

Date placed in Service:

Pre 1980

	lce Bath			Ambient			
Thermocouple ID#	Reference Temp	XAD Temp	Temp Difference Tol = +- 2 F	Reference Temp	XAD Temp	Temp Difference Tol = +- 2 F	
XAD-1	32	33	1	66	67	1	
XAD-2	32	33	1	66	67	1	
XAD-3	32	32	0	66	67	1	
,XAD-4	32	33	1	66	66	0	
XAD-5			0			0	
XAD-6	32	33	1	66	68	2	
XAD-7			0			0	
XAD-8	32	33	1	66	67	1	
XAD-9	32	32	0	65	65	0	
XAD-10	32	33	1	66	67	1	
XAD-11	32	33	1	66	68	2	
XAD-12	32	32	0	66	67	1	

Calibrator: Jarrod Hendley

Reference Thermometer:

HH-81

		oris in the position of	Filter Box C	alibratio	m	ur. Assetts englishere om Greinisch		
Hot Bo	x #1	· · · · · · · · · · · · · · · · · · ·	Hot Box	c#2		Hot Bo	x #3	***************************************
Manufacturer: Serial No.:		NUTECH	Manufacturer: Serial No.:		NUTECH	Manufacturer: Serial No.:	Anderson N/A	NUTECH
Date received/placed in service:	Pre 1995		Date received/placed in service: Pre 1995 Date received/placed in service:		Pre 1995			
Calibration Date:	5-Ja	ın-10	Calibration Date:			Calibration Date:	30-De	c-09
	Ambient	Hot		Ambient	Hot		Ambient	Hot
Reference Temperatures	69	252	Reference Temperatures	72	255	Reference Temperatures	69	249
Actual Temperatures	68	250	Actual Temperatures	71	254	Actual Temperatures	68	248
Temp Difference (tol. = +-2)	11	2	Temp Difference (tol. = +-2)	<u> </u>	<u>  1</u>	Temp Difference (tol. = +-2)	1 1	1
Hot Bo			Hot Box			Hot Bo	···	
Manufacturer:		NUTECH	Manufacturer:	Anderson	NUTECH	Manufacturer:	Anderson	NUTECH
Serial No.:	N/A		Serial No.:	N/A		Serial No.:	N/A	
Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	
Calibration Date:	5-Ja	n-10	Calibration Date:	5-Ja	ın-10	Calibration Date:		
	Ambient	Hot	]	Ambient	Hot		Ambient	Hot
Reference Temperatures	67	245	Reference Temperatures	69	252	Reference Temperatures		
Actual Temperatures	67	245	Actual Temperatures	67	250	Actual Temperatures		
Temp Difference (tol. = +-2)	0	0	Temp Difference (tol. = +-2)	2	2	Temp Difference (tot. = +-2)	0	0
Hot Bo	x #7		Hot Box	c #8		Hot Bo	x #9	
Manufacturer:	Andersor	NUTECH	Manufacturer:	Anderson	NUTECH	Manufacturer:	Anderson i	NUTECH
Serial No.:	N/A		Serial No.:	N/A		Serial No.:	N/A	
Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	
Calibration Date:		ec-09	Calibration Date:		ın-10	Calibration Date:	5-Jar	-10
Sandration Buter	Ambient	Hot	Gailbration Batos	Ambient	Hot	Calibration Date:	Ambient	Hot
Reference Temperatures	68	248	Reference Temperatures	70	245	Reference Temperatures	65	250
Actual Temperatures	69	247	Actual Temperatures	70	244	Actual Temperatures	66	248
Temp Difference (tol. = +-2)	-1	1	Temp Difference (tol. = +-2)	0	1	Temp Difference (tol. = +-2)	-1	2
Hot Box	<del>'</del>	<u> </u>			<del></del>			
			, Hot Box			Hot Box		
Manufacturer:		NUTECH	Manufacturer:		NUTECH	Manufacturer:	Anderson	NUTECH
Serial No.:	N/A		Serial No.:	N/A		Serial No.:	N/A	
Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	
Calibration Date:	<u> </u>	m-10	Calibration Date:			Calibration Date:	ļ.	
	Ambient	Hot	4	Ambient	Hot		Ambient	Hot
Reference Temperatures	68	248	Reference Temperatures			Reference Temperatures		
Actual Temperatures	69	248	Actual Temperatures			Actual Temperatures		
Temp Difference (tol. = +-2)	1	0	Temp Difference (tol. = +-2)	0	. 0	Temp Difference (tol. = +-2)	0	00
Hot Box	#13		Hot Box	#14		Hot Box	c #15	
Manufacturer:	Anderson	NUTECH	Manufacturer:	Anderson	NUTECH	Manufacturer:	Anderson	NUTECH
Serial No.:	N/A		Serial No.:	N/A		Serial No.:	N/A	
Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	
Calibration Date:	5-Ja	n-10	Calibration Date:		ın-10	Calibration Date:		
	Ambient	Hot	]	Ambient	Hot		Ambient	Hot
Reference Temperatures	69	241	Reference Temperatures	67	244	Reference Temperatures		
Actual Temperatures	68	243	Actual Temperatures	68	245	Actual Temperatures		
Temp Difference (tol. = +-2)	1	-2	Temp Difference (tol. = +-2)	-1	-1	Temp Difference (tol. = +-2)	0	0
Hot Box	#16		Hot Box	#17		Hot Box	c#18	
Manufacturer:	<del></del>	NUTECH	Manufacturer:		NUTECH	Manufacturer:	Anderson	NUTECH
Serial No.:	N/A		Serial No.:	N/A		Serial No.:	N/A	TO LEGIT
Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	
Calibration Date:	29-D	ec-09	Calibration Date:	29-D	ec-09	Calibration Date:	1	
	Ambient	Hot	,	Ambient	Hot		Ambient	Hot
Reference Temperatures	65	246	Reference Temperatures	65	246	Reference Temperatures		
Actual Temperatures	64	245	Actual Temperatures	65	245	Actual Temperatures		
Temp Difference (tol. = +-2)	11	-2	Temp Difference (tol. = +-2)	0	1	Temp Difference (tol. = +-2)	0 1	0
	#19		Hot Box	#20		Hot Box	r #21	
Hot Box		NUTECH	Manufacturer:	Anderson	NUTECH	Manufacturer:	Anderson	NUTECH
Manufacturer:	Anderson	INCIECII						
Manufacturer; Serial No.:	N/A	NOTECH	Serial No.:	N/A		Serial No.:	N/A	
Manufacturer: Serial No.: Date received/placed in service:	N/A Pre 1995		Date received/placed in service:	N/A Pre 1995		Date received/placed in service:	Pre 1995	
Manufacturer; Serial No.:	N/A Pre 1995 <b>5-J</b> a	n-10		Pre 1995			Pre 1995	
Manufacturer: Serial No.: Date received/placed in service: Callbration Date:	N/A Pre 1995 5-Ja Ambient	n-10 Hot	Date received/placed in service: Calibration Date:		Hot	Date received/placed in service: Calibration Date:		Hot
Manufacturer: Serial No.: Date received/placed in service: Calibration Date: Reference Temperatures	N/A Pre 1995 5-Ja Ambient 67	n-10 Hot 244	Date received/placed in service: Calibration Date: Reference Temperatures	Pre 1995	Hot	Date received/placed in service: Calibration Date: Reference Temperatures	Pre 1995	Hot
Manufacturer: Serial No.: Date received/placed in service: Calibration Date:	N/A Pre 1995 5-Ja Ambient	n-10 Hot	Date received/placed in service: Calibration Date:	Pre 1995	Hot 0	Date received/placed in service: Calibration Date:	Pre 1995	Hot 0

A=COM

oundrator. Duriou rendicy Reference intermontage in	Calibrator:	Jarrod Hendley	y Reference	Thremometer ID:
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HH-81

Date: 12/28/2009

Thermocouple   Reference   Otherwise   Cris   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Code   Cod			<del></del>		Last Impinger Therm	ocouple	Calibra	tion 2009			
Code   33   32   1			Thermocouple	Reference		оссорис	- Ounitio		Reference	Difference (+/- 2°)	
Code   33   32   1	110	Hot	213	212	1	7164	Hot			0	
	LI-Z				i i	LI-21					
Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   O	Manufa			·		Manufa					
Lit   Hot   214   212   2   Lit   Lit   Cold   0   0   Cold   0   0   Cold   0   0   Cold   0   0   Cold   0   0   Cold   0   0   Cold   0   0   Cold   0   0   Cold   0   0   Cold   0   Cold   0   Cold   0   Cold   0   Cold   0   Cold   Cold   0   Cold   0   Cold   0   Cold   34   33   1   Cold   34   33   1   Cold   34   33   1   Cold   34   33   1   Cold   34   33   1   Cold   34   33   1   Cold   34   33   1   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Cold   Col											
Code   33   32   1   1.122   Code	Date re	ceived/p	laced in service:	Pre 1990		Date re	ceived/p	laced in service:	Pre 1990		
Code   33   32   1   1.122   Code		Hot	214	212	2		Hot			n	
Manufacturer:   Anderson NUTECH   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial No.:   Serial N	LI-4			T		LI-22					
Date received/placed in service:   Pre 1990	Manufa					Manufa					
Li-B											
Cold	Date re	ceived/p	laced in service:	Pre 1990		Date re	ceived/p	laced in service:	Pre 1990		
Cold   Namufacturer	116	Hot			0	1122	Hot	211	211	0	
Manufacturer	LI-6	Cold			0	LI-23				1	
Date received/placed in service:   Pre 1990	Manufa			Anderson NUTEC		Manufa					
Li-T   Hot	_										
Manufacturer	Date re	ceivea/p	laced in service:	Pre 1990		Date re	ceived/p	laced in service:	Pre 1990		
Cold   34   32   2   Cold   0	11.7	Hot	214	212	2	1124	Hot			0	
Manufacturer	L,1-7	Cold	34	32	2	LI-Z#	Cold			0	
Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed	Manufa					Manufa		A	nderson NUTEC		
LL-7 has no check valve used for implager inlet:   LL-8				D 4000				i	D : 1000		
Li-8					nger inlet	⊔ate re	ceivea/p	iaced in service:	Pre 1990		
Cold   33   32   1     Cold   33   32   1     Manufacturer:	["						Hot	213	212	1	
Manufacturer:	LI-8					LI-25					
Serial No.:	Manufa				····	Manufa				<del></del>	
Hot   213   212   1	Serial N	lo.:	<u>-</u>			Serial No.:					
Cold   33   32   -1   Cold   34   33   1	Date re	ceived/p	laced in service:	Pre 1990		Date re	ceived/p	laced in service:	Pre 1990		
Cold   33   32   -1   Cold   34   33   1		Hot	213	212	1		Hot	211	211	0	
Manufacturer:	LI-9					LI-26					
Serial No.:   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date r	Manufa			L		Manufa					
LI-10											
Cold   33   32   1   Cold   33   32   1	Date re	ceived/pi	laced in service:	Pre 1990	<u> </u>	Date re	ceived/p	laced in service:	Pre 1990	·	
Cold   33   32   1   Cold   33   32   1		Hot	212	212	4		Lint	212	212		
Manufacturer:	LI-10					L1-27					
Serial No.:   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990	Manufa		33	32	<u> </u>	Manufa				<u> </u>	
Li-11	Serial N	lo.:		· · · · · · · · · · · · · · · · · · ·		Serial N	lo.:				
Cold   Samulacturer:	Date red	ceived/pl	laced in service:	Pre 1990		Date re	ceived/p	laced in service:	Pre 1990		
Cold   Samulacturer:		Hot			0		Hnt	213	212	1	
Manufacturer:         Anderson NUTECH         Manufacturer:         Anderson NUTECH           Serial No.:         Serial No.:         Date received/placed in service:         Pre 1990           Li-12         Hot         213         212         1         Li-29         Hot         212         210         2           Cold         33         33         0         Manufacturer:         Anderson NUTECH         Anderson NUTECH         Anderson NUTECH         Serial No.:         Serial No.:         Date received/placed in service:         Pre 1990         Pre 1990         Date received/placed in service:         Pre 1990         Pre 1990         Date received/placed in service:         Pre 1990         Date received/placed in service:         Pre 1990         1         Cold         34         33         1         Anderson NUTECH         Manufacturer:         Anderson NUTECH         Anderson NUTECH         Serial No.:         Serial No.:         Date received/placed in service:         Pre 1990         Date received/placed in service:         Pre 1990         Date received/placed in service:         Pre 1990         Date received/placed in service:         Pre 1990         Anderson NUTECH         Serial No.:         Serial No.:         Date received/placed in service:         Pre 1990         Date received/placed in service:         Pre 1990         Pre 1990         Date rec	L.I-11		·			L1-28					
Serial No.:   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990   Date received/placed in servic	Manufa			Anderson NUTEC		Manufa					
Li-12 Hot 213 212 1 Li-29 Hot 212 210 2  Cold 33 33 33 0 Cold 34 33 1  Manufacturer: Anderson NUTECH Manufacturer: Anderson NUTECH Serial No.:  Date received/placed in service: Pre 1990 Date received/placed in service: Pre 1990  Li-13 Hot 211 212 -1 Li-5 Hot 211 210 1  Cold 33 32 1 Cold 34 33 1  Manufacturer: Anderson NUTECH Manufacturer: Anderson NUTECH Serial No.:  Date received/placed in service: Pre 1990 Date received/placed in service: Pre 1990  Li-14 Hot 211 212 -1 Li-5 Hot 211 210 1  Cold 34 33 1  Manufacturer: Anderson NUTECH Manufacturer: Anderson NUTECH Serial No.:  Date received/placed in service: Pre 1990 Date received/placed in service: Pre 1990  Li-20 Hot 213 212 1 Li-14 Hot 212 211 1  Cold 34 34 34 0 Manufacturer: Anderson NUTECH Serial No.:  Date received/placed in service: Pre 1990 Date received/placed in service: Pre 1990  Date received/placed in service: Pre 1990 Date received/placed in service: Pre 1990  Date received/placed in service: Pre 1990  Date received/placed in service: Pre 1990	Serial N	o.:				Serial N	lo.:				
Cold   33   33   0   Cold   34   33   1	Date red	ceived/pl	laced in service:	Pre 1990		Date re	ceived/p	laced in service:	Pre 1990	<del></del>	
Cold   33   33   0   Cold   34   33   1		Hot	213	212			Hot	212	210	2	
Manufacturer:         Anderson NUTECH         Manufacturer:         Anderson NUTECH           Serial No.:         Date received/placed in service:         Pre 1990           Li-13	LI-12			100 1 1 0 0 0 0 0 0 0	Appending the property of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the contro	LI-29					
Serial No.:   Date received/placed in service:   Pre 1990   Date received/placed in service:   Pre 1990	Manufa					Manufa			· · · · · · · · · · · · · · · · · · ·		
LI-13 Hot 211 212 1 LI-5 Hot 211 210 1  Cold 33 32 1 Cold 34 33 1  Manufacturer: Anderson NUTECH Manufacturer: Anderson NUTECH  Serial No.:  Date received/placed in service: Pre 1990 Date received/placed in service: Pre 1990  LI-20 Hot 213 212 1 LI-14 Hot 212 211 1  Cold 34 34 34 0 Manufacturer: Anderson NUTECH  Serial No.:  Date received/placed in service: Pre 1990  Manufacturer: Anderson NUTECH Manufacturer: Anderson NUTECH  Serial No.:  Date received/placed in service: Pre 1990  Date received/placed in service: Pre 1990  Date received/placed in service: Pre 1990			<del> </del>			Serial N	lo.:				
Cold   33   32   1   Cold   34   33   1	Date red	ceived/pl	aced in service:	Pre 1990	ethunun approxisioner () Le exemple para a l'union	Date re	ceived/p	laced in service:	Pre 1990	<del></del>	
Cold   33   32   1   Cold   34   33   1		Hot	211	212			Hot	211	210	1	
Manufacturer:         Anderson NUTECH         Manufacturer:         Anderson NUTECH           Serial No.:         Date received/placed in service:         Pre 1990           LI-20         Hot         213         212         1         LI-14         Hot         212         211         1           Cold         34         34         0         Cold         35         33         2           Manufacturer:         Anderson NUTECH         Manufacturer:         Anderson NUTECH           Serial No.:         Serial No.:         Date received/placed in service:         Pre 1990	LI-13		grand and Skill	the server of the back	e Samalan i san ji a sa sa	LI-5		: ;			
Serial No.:         Serial No.:           Date received/placed in service:         Pre 1990           LI-20         Hot         213         212         1         LI-14         Hot         212         211         1           Cold         34         34         0         Cold         35         33         2           Manufacturer:         Anderson NUTECH         Manufacturer:         Anderson NUTECH           Serial No.:         Serial No.:         Date received/placed in service:         Pre 1990	Manufac					Manufa					
Li-20         Hot         213         212         1         Li-14         Hot         212         211         1           Cold         34         34         0         Cold         35         33         2           Manufacturer:         Anderson NUTECH         Manufacturer:         Anderson NUTECH           Serial No.:         Serial No.:         Date received/placed in service:         Pre 1990	Serial N	o.:		ari yi dayetiri		Serial N	lo.:				
Cold   34   34   0   Cold   35   33   2	Date rec	ceived/pl	aced in service:	Pre 1990		Date re	ceived/p	laced in service:	Pre 1990		
Cold   34   34   0   Cold   35   33   2		Hot	213	212	1		Hot	212	211	1	
Manufacturer: Anderson NUTECH Manufacturer: Anderson NUTECH Serial No.: Serial No.:  Date received/placed in service: Pre 1990 Date received/placed in service: Pre 1990	LI-20					LI-14				· · ·	
Serial No.: Serial No.:  Date received/placed in service: Pre 1990 Date received/placed in service: Pre 1990	Manufac					Manufa					
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# **BAROMETER CALIBRATION DATA FORM**

Field Barometer ID#:

Serial No. 51111291

Reference Barometer ID #:

Serial No. 188841

#### **Pre-Test Calibration data**

Calibration Performed By:

Ryan Burns

Date	Reference Barometer in. Hg	Field Barometer in. Hg	Accuracy in. Hg
14-Jan-10	29.93	29.93	≤ +/- 0.10 in. Hg

### **Post-Test Calibration data**

Calibration Performed By:

Date	Reference Barometer in. Hg	Field Barometer in. Hg	Accuracy in. Hg
			≤ +/- 0.10 in. Hg

**Note:** The field barometer is adjusted to agree with the reference barometer after each calibration. The reference barometer is checked and re-calibrated by the vendor on an annual basis.



**A**≡COM

### DRY GAS METER ANNUAL CALIBRATION - VOST / M6

Meter Box No.:

in. Hg

VO14

Operator:

Ryan Burns

Date:

17-Mar-11 29.80

Barometric Pressure:

Wet Test Meter

Calibration Coefficient:

1.0066

Manufacturer:

Date Received/Placed in service:

Serial No.:

Pretest Leak Check:							
	Allowed	Actual					
Negative	< 0.02	0.00					
(at 10 in. Hg)	Lpm	Lpm					

INITIAL CALIBRATION:

Q Vw Vd Tw Tdi Tdo Tm  $\phi$  Dm  $\gamma$ 

Meter	Vol	lume		Meter Temp	erature Read	ings		Press.	Calib.
Flow	Wet	Dry	Wet	a file disease	Dry Meter		Time	Wet	Coeff.
Rate	Meter	Meter	Meter	In	Out	Avg	ф	Meter	γ
(Lpm)	(L)	(L)	(°C)	(°C)	(°C)	(°C)	(min.)	(in. H ₂ O)	
-									
					<b>-</b>				
								<u> </u>	
1.0	20.88	20.23	19	n/a	23.0	23.0	20,00	1.7	1.0576
1.0	20.95	20.28	19	n/á	24.0	24.0	20.00	1.7	1.0621
1.0	20.74	20.10	19	n/a	25.0	25.0	20.00	1.7	1.0644
								AVG:	1,0614

POST-TEST CHECK:

		N/A		#DIV/0!
		N/A		#DIV/0!
Date:	Pb =	in. Hg	AVG:	#DIV/0!

 $\gamma = \frac{\text{Ratio of reading of wet test meter to dry test meter (dimensionless);}}{\text{Tolerance for individual values is } \pm 0.02 \text{ from the average.}}$ 

Deviation = #DIV/0! (Post-Test to Initial) Tolerance = ±5 % of Initial Y

Potentiometer Calibration:								
Low 0° F 2								
Mid	450° F	451						
High 950° F 952								

Dry Gas Meter Thermocouple Calibration									
		TC ID#:		TC ID#:					
Ref	Ref, ° F	Temp., ° F	Δ	Temp., ° F	Δ				
Amb. Air	68	68	0						
Hot Water	110	110	0						

Note: Hot water to be in the range of 104 –122 °F Tolerance allowed for all individual readings:  $\pm$  5.4 °F



# DRY GAS METER ANNUAL CALIBRATION - VOST / M6

Meter Box No.:

in. Hg

VO14

Operator:

Ryan Burns

Date:

05-Jan-11 29.46

Barometric Pressure : Wet Test Meter

Calibration Coefficient:

1.0066

Manufacturer:

Date Received/Placed in service:

Serial No.:

Pretest Leak Check :											
	Allowed	Actual									
Negative	< 0.02	0.00									
(at 10 in. Hg)	Lpm	Lpm									

### INITIAL CALIBRATION:

Q	Vw	Vd	Tw	Tdi	Tdo	Tm	ф	Dm	γ
Meter	Vo	lume		Motor Town			<del></del>		
Flow	Wet	Dry	Wet		perature Rea	N. Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contraction of the Contractio		Press.	Calib.
Rate	Meter	Meter	Meter	In			Time	Wet	Coeff.
(Lpm)	(L)	(L)	(°C)		Out	Avg	ф	Meter	γ
			<del>- (C)</del>	(°C)	(°C)	(°C)	(min.)	(in. H ₂ O)	
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1.0	20.97	20.00	17.5	n/a	20.0	20.0			
1.0	20.75	20.58	17.5	n/a	24.0	20.0	20.00	1.7	1.0690
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 $\gamma = \frac{\text{Ratio of reading of wet test meter to dry test meter (dimensionless);}}{\text{Tolerance for individual values is } \pm 0.02 \text{ from the average.}}$ 

Deviation = #DIV/0!

(Post-Test to Initial)

Tolerance = ±5 % of Initial Y

Potentiometer Calibration:											
0°F	0										
450° F	450										
950° F	950										
	0° F 450° F										

	Dry Gas Meter Thermocouple Calibration													
	<del></del>	TC ID#:		TC ID#:										
Ref	Ref, ° F	Temp., ° F	Δ	Temp., ° F	Δ									
Amb. Air	66	67	İ											
Hot Water	110	110	0		·									

Note: Hot water to be in the range of 104 –122 °F Tolerance allowed for all individual readings:  $\pm$  5.4 °F

AECOM Environment

# **Appendix F**

# Analytical Data Reports Associated with Stack Gas Sampling

Gravimetric Analysis for Particulate Matter (AECOM)	pg F-1
HRGC/HRMS Analysis for PCDDs/PCDFs (Vista Analytical)	.pg F-9
VOST Analysis for Monochlorobenzene (Air Toxics, Ltd.)	. pg F-94
Method 29 Metals Analysis and Method 26A HCl/Cl ₂ Analysis (TestAmerica Sacramento)	pg F-148

AECOM Environment

**Gravimetric Analysis for Particulate Matter (AECOM)** 

	Norlite Corp 2010 MACT CPT Particulate Filter and Acetone Rinse Results												
	ACETONE FRONT HALF RINSE RESULTS												
Sample ID#	Sample Volume	Tare	Gross Sample	Net Sample	1	Corrected nple Weight							
# U #	(mL)	Weight (g)	Weight (g)	Weight (g)	(g)	(mg)							
Lab Blank	50	93.4371	93.4366	-0.0005									
PM-FHACE-FB	106	90.0837	90.0816	-0.0021									
PM-FHACE-C2-R1	80	94.0734	94.0793	0.0059	0.0059	5.9							
PM-FHACE-C2-R2	52	116.2615	116.2715	0.0100	0.0100	10.0							
PM-FHACE-C2-R3	62	115.2152	115.2193	0.0041	0.0041	4.1							
	Density o	f Acetone	=	0.7908	g/mL								
		yataki i			mg/g	g/mL							
		n acetone (L		=	0.000	0.00E+00							
	PM conc. ir	n acetone (F	B # 1)	=	0.000	0.00E+00							
	Max. Aceto	ne Blank Co	orrection	=	0.010	7.91E-06							
	PARTICUL	ATE FILTE	R RESULT	S									
Run	Tare Weight	Gross Sample Weight	Net Samp	ole Weight	NOTE:								
#	(g)	(g)	(g)	(mg)		ter correction							
Lab Blank	0.3474	0.3474	0.0000	0.0	is necessar								
PM-PF-FB	0.3475	0.3476	0.0001	0.1	filter is with	•							
PM-PF-C2-R1	0.3431	0.3508	0.0077	7.7	of initial tar	•							
PM-PF-C2-R2	0.3482	0.3973	0.0491	49.1	1	ample weight,							
PM-PF-C2-R3	0.3269	0.3390	0.0121	12.1	whichever i								



# AECOM Gravimetric Laboratory Analytical Report

Client:

Doug Roeck

AECOM

2 Technology Park Drive Westford, MA 01886

Laboratory ID: 10-121

Date(s) Received: 10/22/10

Client ID: 60163411

All work contained in this report has been done in accordance with laboratory standard operating procedures. AECOM's Gravimetric Laboratory follows methodologies based upon standard EPA/NIOSH/OSHA Methods. Data contained herein should be considered accurate and complete to the best of our knowledge. This report cannot be duplicated in part without the written permission of AECOM.

Arthur Carpenito

Laboratory Analyst

AECOM Gravimetric Laboratory

arthur Carpento

November 16, 2010

Date

Report

Environment

#### **Case Narrative**

Re.:

Gravimetric Analysis of Filter and Front Half Probe Rinse Samples - Norlite Corp. (2010

MACT CPT), Cohoes, NY

Project #:

60163411

LAB ID #:

10-121

#### ANALYTICAL PROCEDURE:

Four (4) Teflon® type filter samples and 4 front half acetone rinse samples were analyzed via EPA Method 5 as governed by AECOM's SOP 2629-300.

Consecutive gravimetric weights of filters and beaker residues were taken with an annually calibrated Mettler balance, and weighed within specified limits as outlined in EPA Method 5 as well as AECOM's SOP 2629-300.

#### QUALITY CONTROL:

- One field filter blank and one field acetone blank were analyzed as specified by EPA Method 5 and AECOM's SOP 2629-300.
- Laboratory blanks of both filter and acetone were also analyzed per the same Methods and SOP.

#### DISCUSSION:

- 1. Gravimetric results of the filter and acetone field blanks were lowest detectable limit (LDL).
- 2. Gravimetric results of the laboratory blanks were also LDL.
- 3. One filter sample, PM-PF-C2-R2, was received slightly frayed along its edge.

Date Samples Received by the Laboratory: 10/22/10

Date Analysis Started: 10/22/10

R:\AirDBase\M5DB\Method 5 Database\METHOD 5 CLIENT FILES\NORLITE\10-121_CaseNarrative.doc

#### Method 5 Exposed Filter Data Sheet

Project	Manager:
Project	Name:

Doug Roeck Norlite

Project Number:

60163411-300

Analysis Method:

24 hour Desiccation

Oven Dried

			Balance Us	sed: Mettler 3		
	Day	Date	Time	R.H.(%)	R.T. (°F)	Analyst
Start	Friday	10/22/2010	11:18	33	71	AC
Wt. 1	Tuesday	10/26/2010	10:58	36	74	AC
Wt. 2	Thursday	10/28/2010	11:12	37	74	AC
Wt. 3						
Wt. 4						

QA Sheet	[nitia]	Weight	100000000	Sample		Filter	1st Wt.	2nd Wt.	Δ 182 Wt,	3rd Wt.	Δ 283 Wt.	4th Wt.	∆ 384 Wt.	Final Wt.	Δ FW-IW
Page#				Run Date	Sample ID	Type/Size		Grams	Grams	Grams	Grams	Grams	Grams		Total Milligrams
100	10/15/10	0.3474	T1856	N/A	LAB FILTER BLANK	T/90 mm	0.3474	0.3474	0,0000	ok by Wt.				0.3474	0,3
100	10/15/10	0.3475	T1847	10/19/10	PM-PF-FB	T/90 mm	0.3475	0.3476	0.0001	_ok by Wt.				0.3476	0.3
100	10/15/10	0,3431	T1844	10/19/10	PM-PF-C2-R1	T/90 mm	0.3508	0.3507	0.0001	ok by Wt.				0.3508	7.7
100	10/15/10	0.3482	T1845	10/19/10	PM-PF-C2-R2	T/90 mm	0.3973	0.3972	0.0001	ok by Wt.				0,3973	49.1
100	10/15/10	0.3269	T1846	10/19/10	PM-PF-C2-R3	T/90 mm	0,3390	0,3390	0,0000	ok by Wt.				0.3390	12.1
										,					

Filter_Type;	G≖Glass	T⊨Teffon	Q=Quartz

^{1.} Della Weight tolerance +/- 0.0005g of total weight less tare weight between two consecutive weightings or average weight.

^{2.} Filters must be weighed with the proper conditions (RH = 25 - 50 % and RT = 59-78 deg f)

^{3.} Filters must be properly conditioned (24 hour desiccation; Further Conditioning 6 hours).

^{4.} Conditioning for oven method; Oven dried at 105 deg c fo 2-3 hours; Further conditioning 6 hours.

^{5.} Total milligrams below or equal to 0.5 (lowest detectable limit (LDL)) is presented as 0.3.

#### Method 5 Front Half Acetone Probe Rinse Data Sheet

Project Manager: Project Name: Doug Roeck

Project Number:

Norlite 60163411-300

Analysis Method: Natural Evaporation

Heat Application

Balance Used: Mettler 3

		Day	Date	Time	R.H.(%)	R.T. (°F)	Analyst
	Start	Monday	11/1/2010	14:51	30	73	DW
1	Wt, 1	Wednesday	11/3/2010	15:58	32	71	AC
	Wt. 2	Thursday	11/4/2010	9:23	36	70	PW
	Wt. 3	Thursday	11/4/2010	16:20	34	72	AC
	Wt. 4						

QA Sheet	InItia	i Wt.		Sample		Field	Lab	1st Wt,		Δ1&2 Wt.		Δ2&3 Wt.	4th Wt.	∆3&4 Wt.	Final Wt.	Δ FW-IW
Page #	Date	Grams	Beakers	Run Date	Sample ID	mL.	mL	Grams	Grams	Grams	Grams	Grams	Grams	Grams	Grams	Total Millirams
496	10/13/10	93.4371	302	N/A	LAB ACETONE BLANK		50	93,4356	93.4363	0.0007	93.4368	0.0005	ok by Wt.		93.4366	0.3
496	10/13/10	90.0837	332	10/19/10	PM-FHACE-FB	106	50	90.0814	90.0818	0.0004	ok by Wt.				90,0816	0.3
496	10/13/10	94.0734	2010	10/19/10	PM-FHACE-C2-R1	80	50	94,0777	94,0790	0,0013	94.0795	0.0005	ok by Wt.		94,0793	5,9
496	10/13/10	116.2615	2234	10/19/10	PM-FHACE-C2-R2	52	50	116.2716	116,2714	0,0002	ok by Wt.				116,2715	10,0
496	10/13/10		2502	10/19/10	PM-FHACE-C2-R3	62	50	115,2195		0.0004	ok by Wt.				115,2193	4,1
				10110110				.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							110,2100	
												<u> </u>				
												<u> </u>				•
								<u> </u>								

Acetone Manufacturer/Lot No.:__Fisher/097173_

Acetone Rinse = 25 mls twice - (50 mls total)

^{1.} Delta Weight tolerance +/- 0.0005g of total weight less tare weight between two consecutive weightings or average weight,

^{2.} Beakers must be weighed with the proper conditions (RH = 25 - 50 % and RT = 59-78 deg f)

^{3.} Beakers must be properly conditioned (24 hour desiccation; Further Conditioning  $\geq$  6 hours).

^{4.} Natural Evaporation Method = Evaporate to dryness at room temperature under a hood / watch glass cover

^{5.} Heat Application = Under a hood and watch glass over sample, apply heat below the boiling point of sample until evaporated to 25 mls; then follow step 4 (above) for remaining portion.

^{6.} Total milligrams below or equal to 0.5 (lowest detectable limit (LDL)) is presented as 0.3.

# Sample Packing and Traceability List

		Norlite Corp.	Sample Date:	10/19	7/10	Project Location:	Cohoes, NY	P.O. #:	N/A	
		2010 MACT CPT	Date Shipped:	, ,	DRIVEN	Laboratory:	AECOM			
Project		60163411		g Roeck	1	Test Conditions:	C2 = Condition 2			
Program	n Office:	Westford, MA	Recovery: Fred	Sangued 5 4 1	olce					
Progran		Doug Roeck				FedEx Air Bill #:	Hand Delivered			
Item	San	nple ID Code	Sample Mat	rix	Samp	le Description	Analitical Pa	rameters	Specia	al Instructions
1	PM-FH/	ACE-C2-R1	Acetone		Acetone Rinse,	C2 Run 1	Gravimetric Analys	sis	10-12	1-1
2	PM-FH/	ACE-C2-R2	Acetone		Acetone Rinse,	C2 Run 2	Gravimetric Analys	sls		2
3	PM-FH/	ACE-C2-R3	Acetone		Acetone Rinse,	C2 Run 3	Gravimetric Analys	Gravimetric Analysis		3
4	PM-P	F-C2-R1	Filter		Particulate Filter	, C2 Run 1	Gravimetric Analys	sis		4
5	PM-P	F-C2-R2	Filter		Particulate Filter	, C2 Run 2	Gravimetric Analys	sis	š	ร์
6	PM-P	F-C2-R3	Filter		Particulate Filter	, C2 Run 3	Gravimetric Analys	sis		-6
7										
8	PM-F	HACE-FB	Acetone		Acetone, Field B	llank	Gravimetric Analys	sis	10-12	1-7
9	PM	-PF-FB	Filter		Part. Filter, Field	l Blank	Gravimetric Analys	sis	10-12	)-8
10										
11										
12										
13						•				
14					:					
15										
16									·	
17										
18										
19										
20										
Field No	otes/ Comments	1. Sampling	g for particulate matt	er (PM) r	erformed during	Condition 2 only.				
		, ,	•	, , , , , ,						
							1			
									Page	_ of
	shed By (print):	10/2/ 10	Relinquished By (p	rint):	Date:	Relinquished By (prin	it): Date:	Received by	y Lab (print):	Date:
	s R. Roeck	10/2/10			-			Aithir	Carponito	Date: 16/22/10
Signatu	oughes from	ale_ 16:00	Signature:		Time:	Signature:	Time:	Signature:	, V	Time:
	···	eux 16:00			· · · · · · · · · · · · · · · · · · ·			arthu	· Carpento	10:35
Receive	d By (print):	Date:	Received By (print	):	Date:	Received By (print):	Date:	Analytical La	aboratory Destin	ation:
		•			•			AECOM G	ravimetric Labo	oratory
Signatur	re:	Time:	Signature:		Time:	Signature:	Time:	325 Ayer F	Road	
								Harvard, M		
								Attn: Paul	Taverna, (978)-	772-2345, x 32

NEICVP1120E01

Appendix CAA A Page 954 of 1159 Norlite, LLC Cohoes, New York

Client/Proj# <i>Nor1īt=</i>   60163411-300												
Project Mgr: Doug Rock Lab Pool #: 18-121												
Inspected & Logged in by: A - Carpeni to Date & Time: 10/22/10, 10:												
Sample Matrix	Numberof Samoles	Analysis Requested		Storage Location	Pare							
Filter	5	Gravimetric	HT: ///5/10 Due: ///5/10	TSP Lab								
Acetore 5 Gravimetric Due: 11/5/10 TSP Lab												
HT: Due:												
1) Shipped / Hand del 2) COC oresent/ not p		receipt		•								
3) Samples broken / I												
4) Samples (ambient)	chilled on	receipt										
5) Samples preserved	correctly /	incorrectly (none	recommended									
6) Received within to	utside hold	ing time										
7) COC tapes present	t / not prese	ent on samples	NA									
9) Discrepancies (NO discrepancies noted between COCs and samples												
Additional Comments:												

R:\Air_Tox\LAB\Lab forms\samplog.xls 1/4/2007

AECOM Environment

HRGC/HRMS Analysis for PCDDs/PCDFs (Vista Analytical)

PCDD / PCDF Emission Results - TEQ Basis - Front Half

	Run No.		C1-R1		C1-R2		C1-R3
	Date		20-Oct-10		20-Oct-10		21-Oct-10
	Start Time		09:30		13:00		09:04
	Stop Time		12:32		16:02		12:07
	Units		udabin dakira				
Sample Volume	dscf		117.866		123.649		114.675
Sample Volume	m³		3.34		3.50		3.25
Moisture Content	% v/v		13.9		13.8		14.0
O ₂ Concentration	% v/v (dry)		15.60		15.90		15.40
CO ₂ Concentration	% v/v (dry)		4.20		4.00		4.20
Isokinetics	%		97		97		97
Stack Flowrate	dscfm		33,283		34,813		32,531
PCDD / PCDF		pg	ng/m³	pg	ng/m³	pg	ng/m³
Parameters	TEF (a)	'	TEQ		TEQ	'	TEQ
2,3,7,8-TCDD	1.00	(1.21)	0.0E+00	(3.27)	0.0E+00	(1.90)	0.0E+00
1,2,3,7,8-PeCDD	0.50	(5.60)	0.0E+00	(5.63)	0.0E+00	(4.29)	0.0E+00
1,2,3,4,7,8-HxCDD	0.10	(6.05)	0.0E+00	(5.36)	0.0E+00	(6.14)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	(5.64)	0.0E+00	(4.99)	0.0E+00	(5.72)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(5.50)	0.0E+00	(4.87)	0.0E+00	(5.58)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	15.1	4.5E-05	19.0	5.4E-05	11.2	3.4E-05
OCDD	0.001	22.9	6.9E-06	32.3	9.2E-06	17.3	5.3E-06
2,3,7,8-TCDF	0.10	13.2	4.0E-04	16.8	4.8E-04	14.1	4.3E-04
1,2,3,7,8-PeCDF	0.05	10.4	1.6E-04	16.7	2.4E-04	11.4	1.8E-04
2,3,4,7,8-PeCDF	0.50	22.3	3.3E-03	36.0	5.1E-03	25.8	4.0E-03
1,2,3,4,7,8-HxCDF	0.10	10.6	3.2E-04	19.7	5.6E-04	12.0	3.7E-04
1,2,3,6,7,8-HxCDF	0.10	11.4	3.4E-04	21.6	6.2E-04	12.6	3.9E-04
2,3,4,6,7,8-HxCDF	0.10	14.7	4.4E-04	27.3	7.8E-04	16.3	5.0E-04
1,2,3,7,8,9-HxCDF	0.10	(4.43)	0.0E+00	7.30	2.1E-04	(6.12)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	22.3	6.7E-05	44.9	1.3E-04	22.9	7.1E-05
1,2,3,4,7,8,9-HpCDF	0.01	(4.75)	0.0E+00	(8.29)	0.0E+00	3.64	1.1E-05
OCDF	0.001	4.74	1.4E-06	14.5	4.1E-06	9.26	2.9E-06
TOTAL TEQs (ng/m³)		=	5.1E-03	According to	8.2E-03		6.0E-03
TOTAL TEQs (ng/m³	TOTAL TEQs (ng/m³ @ 7 % O ₂ )		1.3E-02	The same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the sa	2.3E-02		1.5E-02
TOTAL TEQs (g/s)		=	8.0E-11		1.4E-10		9.2E-11

(a) U.S.EPA (1989) Toxic Equivalency Factor [ as per 40 CFR 63.1201(a) ]

PCDD / PCDF Emission Results - TEQ Basis - Back Half

	Run No.		C1-R1		C1-R2		C1-R3
	Date		20-Oct-10		20-Oct-10		21-Oct-10
	Start Time		09:30		13:00		09:04
	Stop Time		12:32		16:02		12:07
	Units	14 14 17 17 17 17 17 17 17 17 17 17 17 17 17				19-12:	
Sample Volume	dscf		117.866		123.649		114.675
Sample Volume	m³		3.34		3.50		3.25
Moisture Content	% v/v		13.9		13.8		14.0
O ₂ Concentration	% v/v (dry)		15.60		15.90		15.40
CO ₂ Concentration	% v/v (dry)		4.20		4.00		4.20
Isokinetics	%	,	97		97		97
Stack Flowrate	dscfm		33,283		34,813		32,531
PCDD / PCDF		pg	ng/m³	pg	ng/m³	pg	ng/m³
Parameters	TEF (a)		TEQ	,	TEQ		TEQ
2,3,7,8-TCDD	1.00	51.6	1.5E-02	36.3	1.0E-02	37.4	1.2E-02
1,2,3,7,8-PeCDD	0.50	29.6	4.4E-03	19.4	2.8E-03	18.1	2.8E-03
1,2,3,4,7,8-HxCDD	0.10	5.80	1.7E-04	3.89	1.1E-04	(6.27)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	12.0	3.6E-04	7.09	2.0E-04	(5.85)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(5.10)	0.0E+00	3.29	9.4E-05	(5.07)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	26.1	7.8E-05	9.64	2.8E-05	8.01	2.5E-05
OCDD	0.001	15.4	4.6E-06	9.38	2.7E-06	11.0	3.4E-06
2,3,7,8-TCDF	0.10	1,000	3.0E-02	622	1.8E-02	597	1.8E-02
1,2,3,7,8-PeCDF	0.05	346	5.2E-03	208	3.0E-03	193	3.0E-03
2,3,4,7,8-PeCDF	0.50	584	8.7E-02	385	5.5E-02	321	4.9E-02
1,2,3,4,7,8-HxCDF	0.10	113	3.4E-03	74.1	2.1E-03	62.6	1.9E-03
1,2,3,6,7,8-HxCDF	0.10	112	3.4E-03	70.7	2.0E-03	59.1	1.8E-03
2,3,4,6,7,8-HxCDF	0.10	75.6	2.3E-03	52.8	1.5E-03	41.9	1.3E-03
1,2,3,7,8,9-HxCDF	0.10	23.9	7.2E-04	16.0	4.6E-04	14.4	4.4E-04
1,2,3,4,6,7,8-HpCDF	0.01	47.1	1.4E-04	32.4	9.3E-05	28.8	8.9E-05
1,2,3,4,7,8,9-HpCDF	0.01	5.24	1.6E-05	(3.34)	0.0E+00	(8.10)	0.0E+00
OCDF	0.001	3.89	1.2E-06	(5.07)	0.0E+00	(4.37)	0.0E+00
TOTAL TEQs (ng/m³)	1	=	0.1530		0.0955		0.0907
TOTAL TEQs (ng/m ³	TOTAL TEQs (ng/m ³ @ 7 % O ₂ )				0.2621		0.2267
TOTAL TEQs (g/s)		=	2.4E-09	Propries Clidy, risky	1.6E-09		1.4E-09

(a) U.S.EPA (1989) Toxic Equivalency Factor [ as per 40 CFR 63.1201(a) ]

PCDD / PCDF Emission Results - TEQ Basis - Front Half

	Run No.		C2-R1		C2-R2		C2-R3
	Date		19-Oct-10		19-Oct-10		19-Oct-10
	Start Time		10:58		14:40		17:58
	Stop Time		14:00		17:42		21:00
	Units			Marian Committee		770390	, , 2 - , , , , , , , , , , , , , , ,
Sample Volume	dscf		118.515		122.108		118.610
Sample Volume	m³		3.36		3.46		3.36
Moisture Content	% v/v		12.7		13.0		12.8
O ₂ Concentration	% v/v (dry)		13.37		15.80		15.80
CO ₂ Concentration	% v/v (dry)		3.90		4.00		4.00
Isokinetics	%		93		94		93
Stack Flowrate	dscfm		34,972		35,776		35,136
PCDD / PCDF		pg	ng/m³	pg	ng/m³	pg	ng/m³
Parameters	TEF (a)	'	TEQ	'	TEQ		TEQ
2,3,7,8-TCDD	1.00	(2.55)	0.0E+00	(1.61)	0.0E+00	(1.83)	0.0E+00
1,2,3,7,8-PeCDD	0.50	(5.33)	0.0E+00	(2.52)	0.0E+00	(4.04)	0.0E+00
1,2,3,4,7,8-HxCDD	0.10	(5.49)	0.0E+00	(4.70)	0.0E+00	(6.26)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	6.78	2.0E-04	(4.38)	0.0E+00	(5.84)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(6.36)	0.0E+00	(4.27)	0.0E+00	(5.69)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	55.0	1.6E-04	18.2	5.3E-05	12.7	3.8E-05
OCDD	0.001	113	3.4E-05	49.7	1.4E-05	26.5	7.9E-06
2,3,7,8-TCDF	0.10	5.04	1.5E-04	6.95	2.0E-04	6.86	2.0E-04
1,2,3,7,8-PeCDF	0.05	4.70	7.0E-05	5.63	8.1E-05	6.10	9.1E-05
2,3,4,7,8-PeCDF	0.50	12.0	1.8E-03	13.4	1.9E-03	14.2	2.1E-03
1,2,3,4,7,8-HxCDF	0.10	7.09	2.1E-04	8.63	2.5E-04	9.19	2.7E-04
1,2,3,6,7,8-HxCDF	0.10	7.78	2.3E-04	9.24	2.7E-04	10.2	3.0E-04
2,3,4,6,7,8-HxCDF	0.10	10.9	3.2E-04	13.5	3.9E-04	14.1	4.2E-04
1,2,3,7,8,9-HxCDF	0.10	(2.18)	0.0E+00	4.48	1.3E-04	(1.96)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	21.8	6.5E-05	27.5	8.0E-05	27.9	8.3E-05
1,2,3,4,7,8,9-HpCDF	0.01	3.61	1.1E-05	3.85	1.1E-05	3.81	1.1E-05
OCDF	0.001	13.7	4.1E-06	11.7	3.4E-06	7.96	2.4E-06
TOTAL TEQs (ng/m³)	1	=	3.3E-03	ardi. Er Je	3.4E-03		3.5E-03
TOTAL TEQs (ng/m³	=	6.0E-03		9.2E-03		9.6E-03	
TOTAL TEQs (g/s)		=	5.4E-11		5.8E-11		5.9E-11

⁽a) U.S.EPA (1989) Toxic Equivalency Factor [ as per 40 CFR 63.1201(a) ]

PCDD / PCDF Emission Results - TEQ Basis - Back Half

	Run No.		C2-R1		C2-R2		C2-R3
	Date		19-Oct-10		19-Oct-10		19-Oct-10
	Start Time		10:58		14:40		17:58
	Stop Time		14:00		17:42		21:00
	Units		Mark Court Court				
Sample Volume	dscf		118.515		122.108		118.610
Sample Volume	m³		3.36		3.46		3.36
Moisture Content	% v/v		12.7		13.0		12.8
O ₂ Concentration	% v/v (dry)		13.37		15.80		15.80
CO ₂ Concentration	% v/v (dry)		3.90		4.00		4.00
Isokinetics	%		93		94		93
Stack Flowrate	dscfm		34,972		35,776		35,136
PCDD / PCDF		pg	ng/m³	pg	ng/m³	pg	ng/m³
Parameters	TEF (a)		TEQ		TEQ		TEQ
2,3,7,8-TCDD	1.00	20.8	6.2E-03	16.8	4.9E-03	14.9	4.4E-03
1,2,3,7,8-PeCDD	0.50	14.1	2.1E-03	10.8	1.6E-03	8.72	1.3E-03
1,2,3,4,7,8-HxCDD	0.10	2.96	8.8E-05	(3.81)	0.0E+00	2.35	7.0E-05
1,2,3,6,7,8-HxCDD	0.10	5.90	1.8E-04	5.00	1.4E-04	4.23	1.3E-04
1,2,3,7,8,9-HxCDD	0.10	(5.98)	0.0E+00	(4.56)	0.0E+00	(3.41)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	12.4	3.7E-05	10.5	3.0E-05	9.23	2.7E-05
OCDD	0.001	11.7	3.5E-06	9.69	2.8E-06	(7.91)	0.0E+00
2,3,7,8-TCDF	0.10	391	1.2E-02	291	8.4E-03	248	7.4E-03
1,2,3,7,8-PeCDF	0.05	158	2.4E-03	122	1.8E-03	97.3	1.4E-03
2,3,4,7,8-PeCDF	0.50	277	4.1E-02	217	3.1E-02	176	2.6E-02
1,2,3,4,7,8-HxCDF	0.10	57.7	1.7E-03	50.3	1.5E-03	39.9	1.2E-03
1,2,3,6,7,8-HxCDF	0.10	58.4	1.7E-03	46.9	1.4E-03	38.5	1.1E-03
2,3,4,6,7,8-HxCDF	0.10	40.6	1.2E-03	37.9	1.1E-03	30.7	9.1E-04
1,2,3,7,8,9-HxCDF	0.10	14.2	4.2E-04	13.5	3.9E-04	(3.20)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	32.5	9.7E-05	31.2	9.0E-05	27.0	8.0E-05
1,2,3,4,7,8,9-HpCDF	0.01	3.74	1.1E-05	3.19	9.2E-06	(3.79)	0.0E+00
OCDF	0.001	(4.29)	0.0E+00	(6.47)	0.0E+00	(5.17)	0.0E+00
TOTAL TEQs (ng/m³)	TOTAL TEQs (ng/m³)				0.0526		0.0443
TOTAL TEQs (ng/m ³	=	0.1267		0.1415		0.1193	
TOTAL TEQs (g/s)		=	1.1E-09		8.9E-10	\$:a:13 (;)4:345	7.3E-10

⁽a) U.S.EPA (1989) Toxic Equivalency Factor [ as per 40 CFR 63.1201(a) ]

PCDD / PCDF Emission Results - TEQ Basis - Front Half

	Run No.		C1RT-R1		C1RT-R2		C1RT-R3
	Date		11-Jan-11		11-Jan-11		12-Jan-11
	Start Time		08:49		12:35		09:03
	Stop Time		11:50		15:37		12:04
	Units						- 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,
Sample Volume	dscf		116.829		121.178		114.948
Sample Volume	m³		3.31		3.43		3.26
Moisture Content	% v/v		13.1		13.0		12.6
O ₂ Concentration	% v/v (dry)		15.00		15.02		14.56
CO ₂ Concentration	% v/v (dry)		4.76		4.69		4.38
Isokinetics	%		101		101		99
Stack Flowrate	dscfm		29,857		30,910		29,979
PCDD / PCDF		pg	ng/m³	pg	ng/m³	pg	ng/m³
Parameters	TEF (a)		TEQ		TEQ		TEQ
2,3,7,8-TCDD	1.00	(2.71)	0.0E+00	(1.80)	0.0E+00	(1.61)	0.0E+00
1,2,3,7,8-PeCDD	0.50	(3.53)	0.0E+00	(4.46)	0.0E+00	(3.73)	0.0E+00
1,2,3,4,7,8-HxCDD	0.10	(5.02)	0.0E+00	(4.45)	0.0E+00	(5.90)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	(4.68)	0.0E+00	(4.15)	0.0E+00	(5.50)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(4.56)	0.0E+00	(4.04)	0.0E+00	(5.36)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	5.15	1.6E-05	(6.40)	0.0E+00	(8.34)	0.0E+00
OCDD	0.001	11.5	3.5E-06	6.16	1.8E-06	(12.0)	0.0E+00
2,3,7,8-TCDF	0.10	(3.86)	0.0E+00	(2.85)	0.0E+00	(3.32)	0.0E+00
1,2,3,7,8-PeCDF	0.05	(2.97)	0.0E+00	(3.03)	0.0E+00	(2.99)	0.0E+00
2,3,4,7,8-PeCDF	0.50	(2.04)	0.0E+00	(3.26)	0.0E+00	1.42	2.2E-04
1,2,3,4,7,8-HxCDF	0.10	(2.31)	0.0E+00	(2.02)	0.0E+00	(2.20)	0.0E+00
1,2,3,6,7,8-HxCDF	0.10	(2.17)	0.0E+00	(1.89)	0.0E+00	(2.07)	0.0E+00
2,3,4,6,7,8-HxCDF	0.10	2.17	6.6E-05	1.54	4.5E-05	1.40	4.3E-05
1,2,3,7,8,9-HxCDF	0.10	(2.76)	0.0E+00	(2.41)	0.0E+00	(2.63)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	4.12	1.2E-05	(2.48)	0.0E+00	(3.69)	0.0E+00
1,2,3,4,7,8,9-HpCDF	0.01	(3.49)	0.0E+00	(3.66)	0.0E+00	(2.85)	0.0E+00
OCDF	0.001	(14.3)	0.0E+00	(9.41)	0.0E+00	(17.5)	0.0E+00
	TOTAL TEQs (ng/m³)		9.7E-05	- 1.15	4.7E-05		2.6E-04
TOTAL TEQs (ng/m ³ @ 7 % O ₂ )		= .	2.3E-04		1.1E-04		5.7E-04
TOTAL TEQs (g/s)		=	1.4E-12		6.8E-13		3.7E-12

⁽a) U.S.EPA (1989) Toxic Equivalency Factor [ as per 40 CFR 63.1201(a) ]

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PCDD / PCDF Emission Results - TEQ Basis - Back Half

	Run No.		C1RT-R1		C1RT-R2		C1RT-R3
	Date		11-Jan-11		11-Jan-11		12-Jan-11
	Start Time		08:49		12:35		09:03
	Stop Time		11:50		15:37	•	12:04
	Units						
Sample Volume	dscf		116.829		121.178		114.948
Sample Volume	m³		3.31		3.43		3.26
Moisture Content	% v/v		13.1		13.0		12.6
O ₂ Concentration	% v/v (dry)		15.00		15.02		14.56
CO ₂ Concentration	% v/v (dry)		4.76		4.69		4.38
Isokinetics	%		101		101		99
Stack Flowrate	dscfm		29,857		30,910		29,979
PCDD / PCDF		pg	ng/m³	pg	ng/m³	pg	ng/m³
Parameters	TEF (a)	'	TEQ	, 0	TEQ	' "	TEQ
2,3,7,8-TCDD	1.00	5.98	1.8E-03	6.08	1.8E-03	5.98	1.8E-03
1,2,3,7,8-PeCDD	0.50	9.70	1.5E-03	9.80	1.4E-03	(4.51)	0.0E+00
1,2,3,4,7,8-HxCDD	0.10	(5.32)	0.0E+00	(5.14)	0.0E+00	(6.30)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	4.74	1.4E-04	5.13	1.5E-04	(5.87)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(4.83)	0.0E+00	(4.91)	0.0E+00	(5.72)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	10.9	3.3E-05	13.3	3.9E-05	8.35	2.6E-05
OCDD	0.001	(16.1)	0.0E+00	(23.7)	0.0E+00	(17.2)	0.0E+00
2,3,7,8-TCDF	0.10	69.8	2.1E-03	88.2	2.6E-03	37.1	1.1E-03
1,2,3,7,8-PeCDF	0.05	32.4	4.9E-04	41.2	6.0E-04	17.1	2.6E-04
2,3,4,7,8-PeCDF	0.50	55.0	8.3E-03	71.4	1.0E-02	31.2	4.8E-03
1,2,3,4,7,8-HxCDF	0.10	13.2	4.0E-04	18.2	5.3E-04	8.13	2.5E-04
1,2,3,6,7,8-HxCDF	0.10	15.8	4.8E-04	19.0	5.5E-04	8.58	2.6E-04
2,3,4,6,7,8-HxCDF	0.10	12.7	3.8E-04	15.4	4.5E-04	7.94	2.4E-04
1,2,3,7,8,9-HxCDF	0.10	(3.17)	0.0E+00	3.08	9.0E-05	(2.81)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	11.4	3.4E-05	13.5	3.9E-05	(6.66)	0.0E+00
1,2,3,4,7,8,9-HpCDF	0.01	(3.63)	0.0E+00	(3.72)	0.0E+00	(1.50)	0.0E+00
OCDF	0.001	(5.81)	0.0E+00	(6.14)	0.0E+00	(6.67)	0.0E+00
TOTAL TEQs (ng/m³)			0.0157		0.0186		0.0088
TOTAL TEQs (ng/m 3 @ 7 6 % O ₂ ) =			0.0365		0.0436		0.0192
TOTAL TEQs (g/s)		=	2.2E-10		2.7E-10		1.2E-10

⁽a) U.S.EPA (1989) Toxic Equivalency Factor [ as per 40 CFR 63.1201(a) ]

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PCDD / PCDF Emission Results - TEQ Basis - Front Half

	Run No.		C1A-R1		C1A-R2		C1A-R3
	Date		12-Jan-11		13-Jan-11		13-Jan-11
	Start Time		13:33		08:33		12:00
	Stop Time		16:35		11:35		15:30
	Units						
Sample Volume	dscf		141.163		148.628		142.208
Sample Volume	m³		4.00		4.21		4.03
Moisture Content	% v/v		12.6		12.5		12.0
O ₂ Concentration	% v/v (dry)		15.57		16.13		16.09
CO ₂ Concentration	% v/v (dry)		3.87		3.93		3.98
Isokinetics	%		99		100		99
Stack Flowrate	dscfm		36,658		38,197		36,831
PCDD / PCDF		pg	ng/m³	pg	ng/m³	pg	ng/m³
Parameters	TEF (a)	'	TEQ	'	TEQ		ŤĔQ
2,3,7,8-TCDD	1.00	(1.79)	0.0E+00	(1.94)	0.0E+00	(1.42)	0.0E+00
1,2,3,7,8-PeCDD	0.50	(2.60)	0.0E+00	(2.39)	0.0E+00	(2.94)	0.0E+00
1,2,3,4,7,8-HxCDD	0.10	(4.72)	0.0E+00	(4.76)	0.0E+00	(3.80)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	(4.40)	0.0E+00	(4.44)	0.0E+00	(3.54)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(4.29)	0.0E+00	(4.33)	0.0E+00	(3.45)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	(6.04)	0.0E+00	(6.01)	0.0E+00	(6.80)	0.0E+00
OCDD	0.001	5.79	1.4E-06	(17.9)	0.0E+00	(11.6)	0.0E+00
2,3,7,8-TCDF	0.10	(2.14)	0.0E+00	(2.45)	0.0E+00	(2.60)	0.0E+00
1,2,3,7,8-PeCDF	0.05	(2.98)	0.0E+00	(2.36)	0.0E+00	(2.41)	0.0E+00
2,3,4,7,8-PeCDF	0.50	(3.38)	0.0E+00	(2.47)	0.0E+00	(2.48)	0.0E+00
1,2,3,4,7,8-HxCDF	0.10	(1.70)	0.0E+00	(1.76)	0.0E+00	(1.54)	0.0E+00
1,2,3,6,7,8-HxCDF	0.10	(1.60)	0.0E+00	(1.65)	0.0E+00	(1.44)	0.0E+00
2,3,4,6,7,8-HxCDF	0.10	(1.73)	0.0E+00	(1.79)	0.0E+00	(1.56)	0.0E+00
1,2,3,7,8,9-HxCDF	0.10	(2.03)	0.0E+00	(2.10)	0.0E+00	(1.84)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	(3.98)	0.0E+00	(3.54)	0.0E+00	(3.56)	0.0E+00
1,2,3,4,7,8,9-HpCDF	0.01	(3.03)	0.0E+00	(2.75)	0.0E+00	(1.63)	0.0E+00
OCDF	0.001	(5.86)	0.0E+00	(6.02)	0.0E+00	(6.00)	0.0E+00
TOTAL TEQs (ng/m³)		=	1.4E-06		0.0E+00		0.0E+00
TOTAL TEQs (ng/m ³	=	3.7E-06		0.0E+00		0.0E+00	
TOTAL TEQs (g/s)		=	2.5E-14		0.0E+00		0.0E+00

⁽a) U.S.EPA (1989) Toxic Equivalency Factor [ as per 40 CFR 63.1201(a) ]

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PCDD / PCDF Emission Results - TEQ Basis - Back Half

	Run No.		C1A-R1		C1A-R2		C1A-R3
	Date		12-Jan-11		13-Jan-11		13-Jan-11
	Start Time		13:33		08:33		12:00
	Stop Time		16:35		11:35		15:30
	Units	4		Angring Attended to the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of t			
Sample Volume	dscf		141.163		148.628		142.208
Sample Volume	m³		4.00		4.21		4.03
Moisture Content	% v/v		12.6		12.5		12.0
O ₂ Concentration	% v/v (dry)		15.57		16.13		16.09
CO ₂ Concentration	% v/v (dry)		3.87		3.93		3.98
Isokinetics	%		99		100		99
Stack Flowrate	dscfm		36,658		38,197		36,831
PCDD / PCDF		pg	ng/m³	pg	ng/m³	pg	ng/m³
Parameters	TEF (a)		TEQ		TEQ		TEQ ·
2,3,7,8-TCDD	1.00	5.64	1.4E-03	3.59	8.5E-04	7.50	1.9E-03
1,2,3,7,8-PeCDD	0.50	9.79	1.2E-03	6.79	8.1E-04	7.00	8.7E-04
1,2,3,4,7,8-HxCDD	0.10	(10.3)	0.0E+00	(6.47)	0.0E+00	(7.75)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	(9.64)	0.0E+00	(6.03)	0.0E+00	(7.22)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(9.40)	0.0E+00	(5.87)	0.0E+00	(7.04)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	13.7	3.4E-05	13.4	3.2E-05	11.0	2.7E-05
OCDD	0.001	(26.7)	0.0E+00	13.0	3.1E-06	11.0	2.7E-06
2,3,7,8-TCDF	0.10	50.4	1.3E-03	38.6	9.2E-04	40.7	1.0E-03
1,2,3,7,8-PeCDF	0.05	26.5	3.3E-04	18.9	2.2E-04	18.8	2.3E-04
2,3,4,7,8-PeCDF	0.50	47.6	6.0E-03	27.7	3.3E-03	32.2	4.0E-03
1,2,3,4,7,8-HxCDF	0.10	(9.56)	0.0E+00	7.55	1.8E-04	8.75	2.2E-04
1,2,3,6,7,8-HxCDF	0.10	12.0	3.0E-04	(6.75)	0.0E+00	8.90	2.2E-04
2,3,4,6,7,8-HxCDF	0.10	9.54	2.4E-04	7.14	1.7E-04	7.64	1.9E-04
1,2,3,7,8,9-HxCDF	0.10	(5.16)	0.0E+00	(3.19)	0.0E+00	(3.18)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	10.5	2.6E-05	7.45	1.8E-05	6.92	1.7E-05
1,2,3,4,7,8,9-HpCDF	0.01	(7.83)	0.0E+00	(4.64)	0.0E+00	(4.66)	0.0E+00
OCDF	0.001	(16.5)	0.0E+00	(11.1)	0.0E+00	(8.93)	0.0E+00
TOTAL TEQs (ng/m³)		=	0.0108		0.0065		0.0086
TOTAL TEQs (ng/m ³	=	0.0278		0.0187		0.0247	
TOTAL TEQs (g/s)		=	1.9E-10		1.2E-10		1.5E-10

⁽a) U.S.EPA (1989) Toxic Equivalency Factor [ as per 40 CFR 63.1201(a) ]

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# Risk-Based Emission Results for PCDDs/PCDFs - Condition 1

	Run No.		C1-R1		C1-R2		C1-R3
	Date		20-Oct-10		20-Oct-10		21-Oct-10
	Start Time		09:30		13:00		09:04
	Stop Time		12:32		16:02		12:07
	Units						
Sample Volume	dscf		117.866		123.649		114.675
Sample Volume	m³		3.34		3.50		3.25
Moisture Content	% v/v		13.9		13.8		14.0
O ₂ Concentration	% v/v (dry)		15.60		15.90		15.40
CO ₂ Concentration	% v/v (dry)		4.20		4.00		4.20
Isokinetics	%		97		97		97
Stack Flowrate	dscfm		33,283		34,813		32,531
PCDD / PCDF		pg	g/sec	pg	g/sec	pg	g/sec
Parameters							
2,3,7,8-TCDD		52.81	2.5E-10	39.57	1.9E-10	39.3	1.9E-10
1,2,3,7,8-PeCDD		35.2	1.7E-10	25.03	1.2E-10	22.39	1.1E-10
1,2,3,4,7,8-HxCDD		11.85	5.6E-11	9.25	4.3E-11	12.41	5.9E-11
1,2,3,6,7,8-HxCDD		17.64	8.3E-11	12.08	5.7E-11	11.57	5.5E-11
1,2,3,7,8,9-HxCDD		10.60	5.0E-11	8.16	3.8E-11	10.65	5.0E-11
1,2,3,4,6,7,8-HpCDD		41.20	1.9E-10	28.6	1.3E-10	19.21	9.1E-11
OCDD		38.3	1.8E-10	41.7	2.0E-10	28.3	1.3E-10
2,3,7,8-TCDF		1,013	4.8E-09	639	3.0E-09	611	2.9E-09
1,2,3,7,8-PeCDF		356	1.7E-09	224.7	1.1E-09	204	9.7E-10
2,3,4,7,8-PeCDF		606	2.9E-09	421.0	2.0E-09	347	1.6E-09
1,2,3,4,7,8-HxCDF		123.6	5.8E-10	93.8	4.4E-10	74.6	3.5E-10
1,2,3,6,7,8-HxCDF		123.4	5.8E-10	92.3	4.3E-10	71.7	3.4E-10
2,3,4,6,7,8-HxCDF		90.3	4.2E-10	80.1	3.8E-10	58.2	2.8E-10
1,2,3,7,8,9-HxCDF		28.33	1.3E-10	23.30	1.1E-10	20.52	9.7E-11
1,2,3,4,6,7,8-HpCDF		69.4	3.3E-10	77.3	3.6E-10	51.7	2.4E-10
1,2,3,4,7,8,9-HpCDF		9.99	4.7E-11	11.63	5.5E-11	11.74	5.6E-11
OCDF		8.63	4.1E-11	19.57	9.2E-11	13.63	6.4E-11

# Risk-Based Emission Results for PCDDs/PCDFs - Condition 2

	Run No.		C2-R1		C2-R2		C2-R3
	Date		19-Oct-10		19-Oct-10	<b></b>	19-Oct-10
	Start Time	•	10:58		14:40		17:58
	Stop Time		14:00		17:42		21:00
	Units				ra e arbog		
Sample Volume	dscf		118.515		122.108	2 10 11 11	118.610
Sample Volume	m³		3.36		3.46		3.36
Moisture Content	% v/v		12,7		13.0		12.8
O ₂ Concentration	% v/v (dry)		13.37		15.80		15.80
CO ₂ Concentration	% v/v (dry)		3.90		4.00		4.00
Isokinetics	%		93		94		93
Stack Flowrate	dscfm		34,972		35,776		35,136
PCDD / PCDF		pg	g/sec	pg	g/sec	pg	g/sec
Parameters					_		-
2,3,7,8-TCDD		23.35	1.1E-10	18.41	9.0E-11	16.7	8.3E-11
1,2,3,7,8-PeCDD		19.4	9.6E-11	13.32	6.5E-11	12.76	6.3E-11
1,2,3,4,7,8-HxCDD		8.45	4.2E-11	8.51	4.2E-11	8.61	4.3E-11
1,2,3,6,7,8-HxCDD		12.68	6.2E-11	9.38	4.6E-11	10.07	5.0E-11
1,2,3,7,8,9-HxCDD		12.34	6.1E-11	8.83	4.3E-11	9.10	4.5E-11
1,2,3,4,6,7,8-HpCDD		67.40	3.3E-10	28.7	1.4E-10	21.93	1.1E-10
OCDD		124.7	6.1E-10	59.4	2.9E-10	34.4	1.7E-10
2,3,7,8-TCDF		396	1.9E-09	298	1.5E-09	255	1.3E-09
1,2,3,7,8-PeCDF		163	8.0E-10	127.6	6.2E-10	103	5.1E-10
2,3,4,7,8-PeCDF		289	1.4E-09	230.4	1.1E-09	190	9.4E-10
1,2,3,4,7,8-HxCDF		64.8	3.2E-10	58.9	2.9E-10	49.1	2.4E-10
1,2,3,6,7,8-HxCDF		66.2	3.3E-10	56.1	2.7E-10	48.7	2.4E-10
2,3,4,6,7,8-HxCDF		51.5	2.5E-10	51.4	2.5E-10	44.8	2.2E-10
1,2,3,7,8,9-HxCDF		16.38	8.1E-11	17.98	8.8E-11	5.16	2.5E-11
1,2,3,4,6,7,8-HpCDF		54.3	2.7E-10	58.7	2.9E-10	54.9	2.7E-10
1,2,3,4,7,8,9-HpCDF		7.35	3.6E-11	7.04	3.4E-11	7.60	3.8E-11
OCDF		17.99	8.8E-11	18.17	8.9E-11	13.13	6.5E-11

# Risk-Based Emission Results for PCDDs/PCDFs - Condition 1RT

Trisk-based Limssion Results for Obbs/1 Obts - Condition 177								
	Run No.	C1RT-R1		C1RT-R2		C1RT-R3		
	Date	11-Jan-11		11-Jan-11		12-Jan-11		
	Start Time	08:49			12:35		09:03	
	Stop Time	11:50		15:37		12:04		
	Units							
Sample Volume	dscf	116.829		121.178		114.948		
Sample Volume	m³	3.31		3.43		3.26		
Moisture Content	% v/v	13.1		13.0		12.6		
O ₂ Concentration	% v/v (dry)	15.00		15.02		14.56		
CO ₂ Concentration	% v/v (dry)	4.76		4.69		4.38		
Isokinetics	%	101		101		99		
Stack Flowrate	dscfm	29,857		30,910		29,979		
PCDD / PCDF		pg	g/sec	pg	g/sec	pg	g/sec	
Parameters			_				_	
2,3,7,8-TCDD		8.69	3.7E-11	7.88	3.4E-11	7.6	3.3E-11	
1,2,3,7,8-PeCDD		13.2	5.6E-11	14.26	6.1E-11	8.24	3.6E-11	
1,2,3,4,7,8-HxCDD		10.34	4.4E-11	9.59	4.1E-11	12.20	5.3E-11	
1,2,3,6,7,8-HxCDD		9.42	4.0E-11	9.28	3.9E-11	11.37	4.9E-11	
1,2,3,7,8,9-HxCDD		9.39	4.0E-11	8.95	3.8E-11	11.08	4.8E-11	
1,2,3,4,6,7,8-HpCDD		16.05	6.8E-11	19.7	8.4E-11	16.69	7.3E-11	
OCDD		27.6	1.2E-10	29.9	1.3E-10	29.2	1.3E-10	
2,3,7,8-TCDF		74	3.1E-10	91	3.9E-10	40	1.8E-10	
1,2,3,7,8-PeCDF		35	1.5E-10	44.2	1.9E-10	20	8.7E-11	
2,3,4,7,8-PeCDF		57	2.4E-10	74.7	3.2E-10	33	1.4E-10	
1,2,3,4,7,8-HxCDF	gy Just Bar - 6-	15.5	6.6E-11	20.2	8.6E-11	10.3	4.5E-11	
1,2,3,6,7,8-HxCDF		18.0	7.7E-11	20.9	8.9E-11	10.7	4.6E-11	
2,3,4,6,7,8-HxCDF		14.9	6.3E-11	16.9	7.2E-11	9.3	4.1E-11	
1,2,3,7,8,9-HxCDF		5.93 2.5E-11		5.49	2.3E-11	5.44	2.4E-11	
1,2,3,4,6,7,8-HpCDF		15.5	6.6E-11	16.0	6.8E-11	10.4	4.5E-11	
1,2,3,4,7,8,9-HpCDF		7.12	3.0E-11	7.38	3.1E-11	4.35	1.9E-11	
OCDF		20.11 8.6E-11		15.55	6.6E-11	24.17	1.1E-10	

# Risk-Based Emission Results for PCDDs/PCDFs - Condition 1A

	Run No.		C1A-R1	C1A-R2		C1A-R3		
	Date	12-Jan-11		13-Jan-11		13-Jan-11		
	Start Time	13:33		08:33		12:00		
	Stop Time	16:35		11:35		15:30		
	Units			S (1)				
Sample Volume	dscf		141.163	148.628		142.208		
Sample Volume	m³	4.00		4.21		4.03		
Moisture Content	% v/v	12.6		12.5		12.0		
O ₂ Concentration	% v/v (dry)	15.57		16.13		16.09		
CO ₂ Concentration	% v/v (dry)	3.87		3.93		3.98		
Isokinetics	%	99		100		99		
Stack Flowrate	dscfm	36,658		38,197		36,831		
PCDD / PCDF		pg	g/sec	pg	g/sec	pg	g/sec	
Parameters							<u> </u>	
2,3,7,8-TCDD		7.43	3.2E-11	5.53	2.4E-11	8.9	3.9E-11	
1,2,3,7,8-PeCDD		12.4	5.4E-11	9.18	3.9E-11	9.94	4.3E-11	
1,2,3,4,7,8-HxCDD		15.02	6.5E-11	11.23	4.8E-11	11.55	5.0E-11	
1,2,3,6,7,8-HxCDD		14.04	6.1E-11	10.47	4.5E-11	10.76	4.6E-11	
1,2,3,7,8,9-HxCDD	kara, saka e ya	13.69	5.9E-11	10.20	4.4E-11	10.49	4.5E-11	
1,2,3,4,6,7,8-HpCDD		19.74	8.5E-11	19.4	8.3E-11	17.80	7.7E-11	
OCDD		32.5	1.4E-10	30.9	1.3E-10	22.6	9.8E-11	
2,3,7,8-TCDF		53	2.3E-10	41	1.8E-10	43	1.9E-10.	
1,2,3,7,8-PeCDF		29	1.3E-10	21.3	9.1E-11	21	9.2E-11	
2,3,4,7,8-PeCDF		51	2.2E-10	30.2	1.3E-10	35	1.5E-10	
1,2,3,4,7,8-HxCDF		11.3	4.9E-11	9.3	4.0E-11	10.3	4.4E-11	
1,2,3,6,7,8-HxCDF		13.6	5.9E-11	8.4	3.6E-11	10.3	4.5E-11	
2,3,4,6,7,8-HxCDF		11.3	4.9E-11	8.9	3.8E-11	9.2	4.0E-11	
1,2,3,7,8,9-HxCDF		7.19 3.1E-11		5.29	2.3E-11	5.02	2.2E-11	
1,2,3,4,6,7,8-HpCDF		14.5	6.3E-11	11.0	4.7E-11	10.5	4.5E-11	
1,2,3,4,7,8,9-HpCDF		10.86	4.7E-11	7.39	3.2E-11	6.29	2.7E-11	
OCDF		22.36 9.7E-11		17.12	7.3E-11	14.93	6.4E-11	



January 21, 2011

Vista Project I.D.: 33016

Mr. Doug Roeck AECOM, Inc. 2 Technology Park Drive Westford, MA 01886

Dear Mr. Roeck,

Enclosed are the amended results for the seven MM5 samples received at Vista Analytical Laboratory on January 14, 2011 under your Project Name "Norlite Corp.". This work was authorized under your Purchase Order No. 10272ACM. These samples were extracted and analyzed using Method 0023A-8290A for tetra-through-octa chlorinated dioxins and furans. The front and back halves of each sample train, except the field blank, were extracted and analyzed separately. A rush turnaround time was provided for this work. Unnecessary data qualifiers listed in the original report were removed from sample datasheets.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Vista's current certifications, and copies of the raw data (if requested).

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com. Thank you for choosing Vista as part of your analytical support team.

Martha M. Maier Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista Analytical Laboratory.





# Section I: Sample Inventory Report

Date Received:

1/14/2011

Project No.: Project Name:

33016 Norlite Corp.

Lab. Sample ID	Client Sample ID	Component ID
001	M23-XAD-C1RT-R1	BHR
		XAD
002	M23-PF-C1RT-R1	FHR
		FILTER
003	M23-XAD-C1RT-R2	BHR
		XAD
004	M23-PF-C1RT-R2	FHR
		FILTER
005	M23-XAD-C1RT-R3	BHR
		XAD
006	M23-PF-C1RT-R3	FHR
		FILTER
007	M23-XAD-C1A-R1	BHR
	·	XAD
008	M23-PF-C1A-R1	FHR
		FILTER
009	M23-XAD-C1A-R2	BHR
		XAD
010	M23-PF-C1A-R2	FHR
		FILTER
011	M23-XAD-C1A-R3	BHR
		XAD
012	M23-PF-C1A-R3	FHR
	·	FILTER
013	M23-FB	FHR/BHR
		FILTER
	•	XAD

Smpinvgnmm5.rpt



# SECTION II



Method Blank			1			Method 0023A-8290A
Matrix: MM5	QC Batch No.:	3547	Lab Sample:	0-MB001		
Sample Size: Sample	Date Extracted:	16-Jan-11	Date Analyzed I	DB-5: 18-Jan-11	Date An	alyzed DB-225: NA
Analyte Conc. (pg/Sa	imple) DL ^a EMI	PC ^b Qualifiers	Labeled S	Standard	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD ND	1.55		<u>IS</u> 13C-2,3,7	,8-TCDD	79.1	40 - 135
1,2,3,7,8-PeCDD ND	4.98		13C-1,2,3	,7,8-PeCDD	92.5	40 - 135
1,2,3,4,7,8-HxCDD ND	3.93		13C-1,2,3	,6,7,8-HxCDD	71.0	40 - 135
1,2,3,6,7,8-HxCDD ND	3.66	•	13C-1,2,3	,4,6,7,8-HpCDD	70.1	40 - 135
1,2,3,7,8,9-HxCDD ND	3.57		13C-OCD	D	60.5	40 - 135
1,2,3,4,6,7,8-HpCDD ND	5.80		13C-2,3,7	,8-TCDF	74.7	40 - 135
OCDD ND	9.46		13C-1,2,3	,7,8-PeCDF	81.8	40 - 135
2,3,7,8-TCDF ND	1.18		13C-1,2,3	,6,7,8-HxCDF	73.0	40 - 135
1,2,3,7,8-PeCDF ND	1.77		13C-1,2,3	,4,6,7,8-HpCDF	69.3	40 - 135
2,3,4,7,8-PeCDF ND	1.79		13C-OCD	F	58.0	40 - 135
1,2,3,4,7,8-HxCDF ND	1.52		<u>PS</u> 37Cl-2,3,7	7,8-TCDD	101	70 - 130
1,2,3,6,7,8-HxCDF ND	1.42		13C-2,3,4	,7,8-PeCDF	98.6	70 - 130
2,3,4,6,7,8-HxCDF ND	1.54		13C-1,2,3	,4,7,8-HxCDD	108	70 - 130
1,2,3,7,8,9-HxCDF ND	1.81		13C-1,2,3	,4,7,8-HxCDF	101	70 - 130
1,2,3,4,6,7,8-HpCDF ND	2.36	•	13C-1,2,3	,4,7,8,9-HpCDF	96.6	70 - 130
1,2,3,4,7,8,9-HpCDF ND	3.24		<b>AS</b> 13C-1,2,3	,7,8,9-HxCDF	79.3	40 - 135
OCDF ND	8.16					· '
Totals		· · · · · · ·	Toxic Equivaler	nt Quotient (TEQ) D	ata e	
Total TCDD ND	1.58		TEQ (Min-Max	:): 0 - 9.10		
Total PeCDD ND	3.23		<b>.</b>	\$ ₄		•
Total HxCDD ND	3.71		a. Sample specific es	timated detection limit.		
Total HpCDD ND	5.50		b. Estimated maximu	m possible concentration.		
Total TCDF ND	1.40		c. Method detection l	imit.		
Total PeCDF ND	1.76		d. Lower control limit - upper control limit.			
Total HxCDF ND	1.56		e. TEQ based on (200	05) World Health Organizat	tion Toxic Equi	ivalent Factors.(WHO)
Total HpCDF ND	2.64					

Analyst:

ANP

Approved By:

William J. Luksemburg 20-Jan-2011 13:15



OPR Results					Metho	d 0023A-82	90A
Matrix: MM5	(	QC Batch No.:	3547	Lab Sample: 0-OPR001			
Sample Size: Sample	I	Date Extracted:	16-Jan-11	Date Analyzed DB-5: 18-Jan-11	Date Analy	zed DB-225:	NA
Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits	Labeled Standard	%R	LCL-UCL	Qualifier
2,3,7,8-TCDD	2.50	2.77	1.75 - 3.25	<u>IS</u> 13C-2,3,7,8-TCDD	73.6	40 - 135	
1,2,3,7,8-PeCDD	12.5	13.1	8.75 - 16.25	13C-1,2,3,7,8-PeCDD	85.9	40 - 135	
1,2,3,4,7,8-HxCDD	12.5	13.0	8.75 - 16.25	13C-1,2,3,6,7,8-HxCDD	65.8	40 - 135	
1,2,3,6,7,8-HxCDD	12.5	12.7	8.75 - 16.25	13C-1,2,3,4,6,7,8-HpCDD	66.1	40 - 135	
1,2,3,7,8,9-HxCDD	12.5	13.9	8.75 - 16.25	13C-OCDD	57.8	40 - 135	
1,2,3,4,6,7,8-HpCDD	12.5	11.9	8.75 - 16.25	13C-2,3,7,8-TCDF	66.2	40 - 135	
OCDD	25.0	24.5	17.5 - 32.5	13C-1,2,3,7,8-PeCDF	77.0	40 - 135	
2,3,7,8-TCDF	2.50	2.47	1.75 - 3.25	13C-1,2,3,6,7,8-HxCDF	67.0	40 - 135	
1,2,3,7,8-PeCDF	12.5	11.8	8.75 - 16.25	13C-1,2,3,4,6,7,8-HpCDF	66.5	40 - 135	
2,3,4,7,8-PeCDF	12.5	11.8	8.75 - 16.25	13C-OCDF	54.6	40 - 135	
1,2,3,4,7,8-HxCDF	12.5	12.5	8.75 - 16.25	AS 13C-1,2,3,7,8,9-HxCDF	80.1	40 - 135	
1,2,3,6,7,8-HxCDF	12.5	13.3	8.75 - 16.25		•		
2,3,4,6,7,8-HxCDF	12.5	13.0	8.75 - 16.25				
1,2,3,7,8,9-HxCDF	12.5	13.6	8.75 - 16.25				
1,2,3,4,6,7,8-HpCDF	12.5	12.6	8.75 - 16.25			-	
1,2,3,4,7,8,9-HpCDF	12.5	11.3	8.75 - 16.25				
OCDF	25.0	24.8	17.5 - 32.5		**		

Approved By:



Sample ID: M23-	-XAD-C1RT-R	1							Method 0	023A-8290A
	COM, Inc. ite Corp. an-11		Sample Data Matrix. Sample Size:	MM5 1 Sample	Lab :	oratory Data Sample: Batch No.: Analyzed DB-5:	33016-001 3547 18-Jan-11	Date Re Date Ex Dates Ar		14-Jan-11 16-Jan-11 19-Jan-11
Analyte	Conc. (pg/Sample	e) DL a	EMPC ^b	Qualifiers		Labeled Standa	rd	%R	LCL-UCLd	Qualifiers
2,3,7,8-TCDD	5.98			J ·	<u>IS</u>	13C-2,3,7,8-TCD	D	77.9	40 - 135	
1,2,3,7,8-PeCDD	9.70			J		13C-1,2,3,7,8-Pet	CDD	98.0	40 - 135	
1,2,3,4,7,8-HxCDD	ND	5.32				13C-1,2,3,6,7,8-F	IxCDD	79.6	40 - 135	
1,2,3,6,7,8-HxCDD	4.74			J		13C-1,2,3,4,6,7,8	-HpCDD	84.1	40 - 135	
1,2,3,7,8,9-HxCDD	ND	4.83	•			13C-OCDD		78.1	40 - 135	
1,2,3,4,6,7,8-HpCDD	10.9			J		13C-2,3,7,8-TCD	F	71.2	40 - 135	
OCDD	ND	16.1				13C-1,2,3,7,8-Pe	CDF	83.2	40 - 135	
2,3,7,8-TCDF	69.8					13C-1,2,3,6,7,8-F	IxCDF	80.8	40 - 135	
1,2,3,7,8-PeCDF	32.4			J		13C-1,2,3,4,6,7,8	-HpCDF	79.2	40 - 135	1000
2,3,4,7,8-PeCDF	55.0					13C-OCDF		76.1	40 - 135	
1,2,3,4,7,8-HxCDF	13.2			J	<u>PS</u>	37Cl-2,3,7,8-TCI	DD .	100	70 - 130	* 1
1,2,3,6,7,8-HxCDF	15.8			J		13C-2,3,4,7,8-Pe	CDF	96.4	70 - 130	
2,3,4,6,7,8-HxCDF	12.7			J		13C-1,2,3,4,7,8-H	łxCDD	102	70 - 130	
1,2,3,7,8,9-HxCDF	ND	3.17				13C-1,2,3,4,7,8-F	IxCDF	94.4	70 - 130	
1,2,3,4,6,7,8-HpCDF	11.4			J		13C-1,2,3,4,7,8,9	-HpCDF	91.6	70 - 130	
1,2,3,4,7,8,9-HpCDF	ND	3.63			<u>AS</u>	13C-1,2,3,7,8,9-F	łxCDF	87.0	40 - 135	
OCDF	ND	5.81								
Totals					Tox	cic Equivalent Qu	otient (TEQ) D	ata e		
Total TCDD	154		163		TE	Q (Min-Max): 45	5.0 - 46.4			
Total PeCDD	123					,				-
Total HxCDD	92.1	*			a. Sa	mple specific estimated	detection limit.			
Total HpCDD	22,4	3			1	timated maximum poss				
Total TCDF	2780				1	ethod detection limit.				
Total PeCDF	640		•		d. Lo	ower control limit - uppe	er control limit.			
Total HxCDF	117		120		e. TE	EQ based on (2005) Wo	rld Health Organizat	ion Toxic E	quivalent Factors.(	(WHO)
Total HpCDF	11.4					- ,			- '	

Analyst: MAS

Approved By:



Sample ID: M23-	-PF-C1RT-R1					Method 00	23A-8290A
	OM, Inc. ite Corp. nn-11		Sample Data Matrix: Sample Size:	MM5 1 Sample	Laboratory Data           Lab Sample:         33016-002           QC Batch No.:         3547           Date Analyzed DB-5:         18-Jan-11	Date Received: Date Extracted: Date Analyzed DB-225:	14-Jan-11 16-Jan-11 NA
Analyte	Conc. (pg/Sample)	DL a	<b>EMPC</b> ^b	Qualifiers	Labeled Standard	%R LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF	ND ND ND ND ND S.15 11.5 ND ND ND ND ND ND ND ND ND ND ND ND ND	2.71 3.53 5.02 4.68 4.56 3.86 2.97 2.31 2.17	2.04	1 1	IS 13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,6,7,8-HxCDD 13C-1,2,3,4,6,7,8-HpCDD 13C-0CDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-1,2,3,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HpCDF 13C-OCDF  AS 13C-1,2,3,7,8,9-HxCDF	82.5	
1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	ND 4.12 ND ND	2.76 3.49 14.3		J			
Totals					Toxic Equivalent Quotient (TEQ) D	Pata ^e	
Total TCDD Total PeCDD Total HxCDD	ND ND ND	2.36 4.14	3.71		TEQ (Min-Max): 0.313 - 9.83  a. Sample specific estimated detection limit.		
Total HpCDD Total TCDF Total PeCDF Total HxCDF Total HpCDF	5.15 9.88 4.08 7.16 4.12		8.15		b. Estimated maximum possible concentration. c. Method detection limit. d. Lower control limit - upper control limit. e. TEQ based on (2005) World Health Organizat	tion Toxic Equivalent Factors.(V	VHO)

Approved By:



Sample ID: M23	-XAD-C1RT-R2				-				Method 0	023A-8290A
Client Data			Sample Data		Labe	oratory Data		· · · · · · · · · · · · · · · · · · ·		
	OM, Inc.		Matrix:	MM5	Lab	Sample:	33016-003	Date Re	ceived:	14-Jan-11
	ite Corp. an-11		Sample Size:	1 Sample	QC I	Batch No.:	3547	Date Extracted:		16-Jan-11
Time Collected: NA	all-1 1				Date	Analyzed DB-5:	18-Jan-11	Dates A	nalyzed DB-225:	19-Jan-11
Analyte	Conc. (pg/Sample)	DL a	EMPC ^b	Qualifiers		Labeled Standa	rd	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	6.08			J	<u>IS</u>	13C-2,3,7,8-TCD	D ·	81.9	40 - 135	
1,2,3,7,8-PeCDD	9.80			J		13C-1,2,3,7,8-Pe	CDD	94.2	40 - 135	
1,2,3,4,7,8-HxCDD	ND	5.14				13C-1,2,3,6,7,8-H	IxCDD	75.2	40 - 135,	
1,2,3,6,7,8-HxCDD	5.13			J		13C-1,2,3,4,6,7,8	-HpCDD	80.2	40 - 135	
1,2,3,7,8,9-HxCDD	ND	4.91				13C-OCDD		72.6	40 - 135	
1,2,3,4,6,7,8-HpCDD	13.3			J		13C-2,3,7,8-TCD	F	72.4	40 - 135	
OCDD	ND	23.7				13C-1,2,3,7,8-Pe	CDF	78.3	40 - 135	
2,3,7,8-TCDF	88.2					13C-1,2,3,6,7,8-H	IxCDF	74.5	40 - 135	
1,2,3,7,8-PeCDF	41.2		+ 2 - 1	J		13C-1,2,3,4,6,7,8	-HpCDF	75.4	40 - 135	
2,3,4,7,8-PeCDF	71.4					13C-OCDF		70.4	40 - 135	
1,2,3,4,7,8-HxCDF	18.2			J	<u>PS</u>	37Cl-2,3,7,8-TCE	<b>D</b> D	94.9	70 - 130	
1,2,3,6,7,8-HxCDF	19.0			J		13C-2,3,4,7,8-Pe	CDF	91.1	70 - 130	
2,3,4,6,7,8-HxCDF	15.4			J		13C-1,2,3,4,7,8-H	IxCDD	91.6	70 - 130	
1,2,3,7,8,9-HxCDF	3.08			J		13C-1,2,3,4,7,8-H	IxCDF	87.5	70 - 130	
1,2,3,4,6,7,8-HpCDF	13.5			J	]	13C-1,2,3,4,7,8,9	-HpCDF	80.7	70 - 130	
1,2,3,4,7,8,9-HpCDF	ND	3.72			<u>AS</u>	13C-1,2,3,7,8,9-H	IxCDF	88.4	40 - 135	
OCDF	ND	6.14	•					•		
Totals					Тох	ic Equivalent Que	otient (TEQ) D	ata ^e		
Total TCDD	182		193		TE	Q (Min-Max): 53	.7 - 54.7			
Total PeCDD	108	•	126							
Total HxCDD	110	,			a. Sa	mple specific estimated	detection limit.			
Total HpCDD	30.3				b. Es	timated maximum possi	ble concentration.			
Total TCDF	3350		3370		c. M	ethod detection limit,				
Total PeCDF	811				d. Lo	wer control limit - uppe	r control limit.			
Total HxCDF	162				e. TE	EQ based on (2005) Wor	ld Health Organizati	ion Toxic E	quivalent Factors.(	(WHO)
Total HpCDF	13.5	2								

Analyst: MAS

Approved By:



Sample ID: M23-	-PF-C1RT-R2						Method 0	023A-8290 <i>A</i>
	OM, Inc. ite Corp. m-11		Sample Data Matrix: Sample Siźe:	MM5 1 Sample	Laboratory Data           Lab Sample:         33016-004           QC Batch No.:         3547           Date Analyzed DB-5:         18-Jan-11	Date Re Date Ex Date An		14-Jan-11 16-Jan-11 NA
Analyte	Conc. (pg/Sample)	DL a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	1.80			IS 13C-2,3,7,8-TCDD	83.9	40 - 135	
1,2,3,7,8-PeCDD	ND	4.46			13C-1,2,3,7,8-PeCDD	99.9	40 - 135	
1,2,3,4,7,8-HxCDD	ND	4.45			13C-1,2,3,6,7,8-HxCDD	76.4	40 - 135	
1,2,3,6,7,8-HxCDD	ND	4.15			13C-1,2,3,4,6,7,8-HpCDD	79.2	40 - 135	
1,2,3,7,8,9-HxCDD	ND	4.04			13C-OCDD	72.0	40 - 135	•
1,2,3,4,6,7,8-HpCDD	ND	6.40			13C-2,3,7,8-TCDF	75.0	40 - 135	
OCDD	6.16			J.	13C-1,2,3,7,8-PeCDF	87.9	40 - 135	
2,3,7,8-TCDF	ND	2.85			13C-1,2,3,6,7,8-HxCDF	78.3	40 - 135	
1,2,3,7,8-PeCDF	ND	3.03			13C-1,2,3,4,6,7,8-HpCDF	76.0	40 - 135	
2,3,4,7,8-PeCDF	ND	3.26			13C-OCDF	67.4	40 - 135	
1,2,3,4,7,8-HxCDF	ND	2.02			AS 13C-1,2,3,7,8,9-HxCDF	86.0	40 - 135	-
1,2,3,6,7,8-HxCDF	ND	1.89						
2,3,4,6,7,8-HxCDF	1.54			J				
1,2,3,7,8,9-HxCDF	ND	2.41						
1,2,3,4,6,7,8-HpCDF	ND		2.48	•	·		*	
1,2,3,4,7,8,9-HpCDF	ND	3.66						
OCDF	ND	9.41						
Totals					Toxic Equivalent Quotient (TEQ) D	oata e		
Total TCDD	ND	2.29			TEQ (Min-Max): 0.156 - 9.79			
Total PeCDD	ND	3.69						
Total HxCDD	3.62				a. Sample specific estimated detection limit.			
Total HpCDD	ND	6.89			b. Estimated maximum possible concentration.			
Total TCDF	ND		1.86		c. Method detection limit.			
Total PeCDF	ND	3.57			d. Lower control limit - upper control limit.			•
Total HxCDF	3.23				e. TEQ based on (2005) World Health Organiza	tion Toxic E	quivalent Factors.(	WHO)
Total HpCDF	ND		2.48		. ,		•	. ,

Approved By:



Sample ID: M23-	-XAD	-C1RT-R3	• .							Method 0	023A-8290A
Client Data				Sample Data		Labo	oratory Data			•	•
	OM, Ir			Matrix:	MM5	Lab :	Sample:	33016-005	Date Re	ceived:	14-Jan-11
Project: Norli Date Collected: 13-Ja	ite Cor	p.		Sample Size:	1 Sample	QCI	Batch No.:	3547	Date Ex	tracted:	16-Jan-11
Time Collected: NA	311-1 I					Date	Analyzed DB-5:	18-Jan-11	Dates A	nalyzed DB-225:	19-Jan <b>-</b> 11
Analyte (	Conc.	(pg/Sample)	DL a	EMPC ^b	Qualifiers		Labeled Standar	·d	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	5.98				J	<u>IS</u>	13C-2,3,7,8-TCDI	)	84.4	40 - 135	
1,2,3,7,8-PeCDD	ND			4.51			13C-1,2,3,7,8-PeC	DD	95.2	40 - 135	
1,2,3,4,7,8-HxCDD	ND		6.30				13C-1,2,3,6,7,8-H	xCDD	77.3	40 - 135	
1,2,3,6,7,8-HxCDD	ND		5.87				13C-1,2,3,4,6,7,8-	HpCDD	81.6	40 - 135	
1,2,3,7,8,9-HxCDD	ND		5.72				13C-OCDD		74.2	40 - 135	
1,2,3,4,6,7,8-HpCDD	8.35				J		13C-2,3,7,8-TCD	₹	79.9	40 - 135	
OCDD	ND		17.2				13C-1,2,3,7,8-PeC	DF	83.2	40 - 135	÷
2,3,7,8-TCDF	37.1				•		13C-1,2,3,6,7,8-H	xCDF	77.2	40 - 135	
1,2,3,7,8-PeCDF	17.1				J		13C-1,2,3,4,6,7,8-	HpCDF	76.0	40 - 135	
2,3,4,7,8-PeCDF	31.2				J		13C-OCDF		72.1	40 - 135	
1,2,3,4,7,8-HxCDF	8.13				J	<u>PS</u>	37C1-2,3,7,8-TCD	D	103	70 - 130	
1,2,3,6,7,8-HxCDF	8.58				J		13C-2,3,4,7,8-PeC	DF	99.5	70 - 130	
2,3,4,6,7,8-HxCDF	7.94	•			J .		13C-1,2,3,4,7,8-H	xCDD	104	70 - 130	
1,2,3,7,8,9-HxCDF	ND		2.81				13C-1,2,3,4,7,8-H	xCDF	101	70 - 130	
1,2,3,4,6,7,8-HpCDF	ND			6.66			13C-1,2,3,4,7,8,9-	HpCDF	98.1	70 - 130	
1,2,3,4,7,8,9-HpCDF	ND		1.50			<u>AS</u>	13C-1,2,3,7,8,9-H	xCDF	87.1	40 - 135	
OCDF	ND		6.67				•				
Totals						Tox	ic Equivalent Quo	tient (TEQ) Da	ıta ^e		
Total TCDD	91.0		_	103	_	TEC	Q (Min-Max): 22	.1 - 28.8			
Total PeCDD	61.7	-		70.2			·				
Total HxCDD	45.6					a. Sa	mple specific estimated o	letection limit.			
Total HpCDD	17.0					b. Es	timated maximum possil	ole concentration.		· · · · · ·	
Total TCDF	1430			1430		c. Me	ethod detection limit.				
Total PeCDF	323			338		d. Lo	wer control limit - upper	control limit.			
Total HxCDF	56.8					e TE	Q based on (2005) Worl	d Health Organizatio	on Toxic E	quivalent Factors.(	WHO)
Total HpCDF	ND			6.66							

Analyst: MAS

Approved By:



Sample ID: M23	-PF-C	C1RT-R3						Method 0	023A-8290A
Project: Norl	COM, In ite Cor an-11			Sample Data Matrix: Sample Size:	MM5 I Sample	Laboratory Data           Lab Sample:         33016-006           QC Batch No.:         3547           Date Analyzed DB-5:         18-Jan-11	Date Re Date Ex Date An		14-Jan-11 16-Jan-11 NA
Analyte	Conc.	(pg/Sample)	DL a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND		1.61			<u>IS</u> 13C-2,3,7,8-TCDD	88.2	40 - 135	
1,2,3,7,8-PeCDD	ND		3.73			13C-1,2,3,7,8-PeCDD	101	40 - 135	
1,2,3,4,7,8-HxCDD	ND		5.90			13C-1,2,3,6,7,8-HxCDD	73.9	40 - 135	
1,2,3,6,7,8-HxCDD	ND		5.50			13C-1,2,3,4,6,7,8-HpCDD	79.9	40 - 135	
1,2,3,7,8,9-HxCDD	ND		5.36			13C-OCDD	69.0	40 - 135	
1,2,3,4,6,7,8-HpCDD	ND		8.34			13C-2,3,7,8-TCDF	80.5	40 - 135	
OCDD	ND		12.0			13C-1,2,3,7,8-PeCDF	86.5	40 - 135	
2,3,7,8-TCDF	ND		3.32			13C-1,2,3,6,7,8-HxCDF	78.2	40 - 135	
1,2,3,7,8-PeCDF	ND		2.99			13C-1,2,3,4,6,7,8-HpCDF	74.8	40 - 135	
2,3,4,7,8-PeCDF	1.42				J	13C-OCDF	66.4	40 - 135	
1,2,3,4,7,8-HxCDF	ND		2.20			<u>AS</u> 13C-1,2,3,7,8,9-HxCDF	85.7	40 - 135	
1,2,3,6,7,8-HxCDF	ND		2.07						
2,3,4,6,7,8-HxCDF	1.40				J				
1,2,3,7,8,9-HxCDF	ND		2.63						
1,2,3,4,6,7,8-HpCDF	ND		3.69						
1,2,3,4,7,8,9-HpCDF	ND		2.85						
OCDF	ND		17.5						
Totals					•	Toxic Equivalent Quotient (TEQ) Date	ta e		
Total TCDD	4.71					TEQ (Min-Max): 0.566 - 8.85			
Total PeCDD	ND		3.21			•	•		
Total HxCDD	3.34					a. Sample specific estimated detection limit.			
Total HpCDD	ND		8.34			b. Estimated maximum possible concentration.			
Total TCDF	ND			1.28		c. Method detection limit.		•	
Total PeCDF	1.42					d. Lower control limit - upper control limit.			
Total HxCDF	3.39		•			e. TEQ based on (2005) World Health Organization	n Toxic E	quivalent Factors.(	WHO)
Total HpCDF	ND		2.88				- : : 1	2.	

Approved By:



Sample ID: M23	-XAD-C1A-R1	•					Method 0	023A-8290 <i>A</i>
Project: Norl	COM, Inc. ite Corp. an-11		Sample Data Matrix: Sample Size:	MM5 1 Sample	Laboratory Data           Lab Sample:         33016-007           QC Batch No.:         3547           Date Analyzed DB-5:         19-Jan-11	Date Re Date Ex Dates A		14-Jan-11 16-Jan-11 19-Jan-11
Analyte	Conc. (pg/Sample)	DL a	EMPC ^b	Qualifiers	Labeled Standard	%R	LCL-UCLd	Qualifiers
2,3,7,8-TCDD	5.64			· J ·	<u>IS</u> 13C-2,3,7,8-TCDD	81.9	40 - 135	
1,2,3,7,8-PeCDD	9.79			J	13C-1,2,3,7,8-PeCDD	91.3	40 - 135	
1,2,3,4,7,8-HxCDD	ND	10.3			13C-1,2,3,6,7,8-HxCDD	73.5	40 - 135	
1,2,3,6,7,8-HxCDD	ND	9.64			13C-1,2,3,4,6,7,8-HpCDD	81.2	40 - 135	
1,2,3,7,8,9-HxCDD	ND	9.40			13C-OCDD	77.8	40 - 135	
1,2,3,4,6,7,8-HpCDD	13.7			J	13C-2,3,7,8-TCDF	76.0	40 - 135	,
OCDD	ND	- 26.7			13C-1,2,3,7,8-PeCDF	88.4	40 - 135	•
2,3,7,8-TCDF	50.4				13C-1,2,3,6,7,8-HxCDF	82.8	40 - 135	
1,2,3,7,8-PeCDF	26.5			J	13C-1,2,3,4,6,7,8-HpCDF	74.6	40 - 135	
2,3,4,7,8-PeCDF	47.6			J	13C-OCDF	77.0	40 - 135	
1,2,3,4,7,8-HxCDF	ND		9.56		<u>PS</u> 37C1-2,3,7,8-TCDD	100	70 - 130	
1,2,3,6,7,8-HxCDF	12.0			J	13C-2,3,4,7,8-PeCDF	97.9	70 - 130	
2,3,4,6,7,8-HxCDF	9.54			J	13C-1,2,3,4,7,8-HxCDD	103	70 - 130	
1,2,3,7,8,9-HxCDF	ND	5.16			13C-1,2,3,4,7,8-HxCDF	95.1	70 - 130	
1,2,3,4,6,7,8-HpCDF	10.5			J	13C-1,2,3,4,7,8,9-HpCDF	102	70 - 130	
1,2,3,4,7,8,9-HpCDF	·ND	7.83		,	AS 13C-1,2,3,7,8,9-HxCDF	90.6	40 - 135	
OCDF	ND	16.5						
Totals					Toxic Equivalent Quotient (TEQ) Da	ıta e		
Total TCDD	157		167		TEQ (Min-Max): 38.0 - 42.5			
Total PeCDD	104		135					
Total HxCDD	87.1				a. Sample specific estimated detection limit.			
Total HpCDD	28.4	•		:	b. Estimated maximum possible concentration.			in the second
Total TCDF	1660				c. Method detection limit.			
Total PeCDF	470		477		d. Lower control limit - upper control limit.			
Total HxCDF	73.6		83.2		e. TEQ based on (2005) World Health Organization	on Toxic E	quivalent Factors.	(WHO)
Total HpCDF	10.5						=	•

Approved By:



Sample ID: M23-	-PF-C1A-	R1					Method 0	023A-8290A
	OM, Inc. ite Corp. in-11		Sample Data Matrix: Sample Size:	MM5 1 Sample	Laboratory Data           Lab Sample:         33010           QC Batch No.:         3547           Date Analyzed DB-5:         18-Ja			14-Jan-11 16-Jan-11 NA
Analyte	Conc. (pg/	Sample) DI	a EMPCb	Qualifiers	Labeled Standard	%R	LCL-UCLd	Qualifiers
2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 2,3,7,8-TCDF 1,2,3,4,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8-HxCDF	ND ND ND ND ND S.79 ND ND ND ND ND ND ND ND ND ND ND ND ND	2. 4. 4. 4. 6. 2. 3. 1. 1. 2.	04 14 98 38 70 60 73	J	IS 13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,6,7,8-HxCDD 13C-1,2,3,4,6,7,8-HpCDI 13C-OCDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-1,2,3,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HpCDI 13C-OCDF AS 13C-1,2,3,7,8,9-HxCDF	D 85.0 76.2 82.3 88.2 83.0	40 - 135 40 - 135 40 - 135 40 - 135 40 - 135 40 - 135 40 - 135 40 - 135 40 - 135 40 - 135	
1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF  Totals  Total TCDD Total PeCDD Total HxCDD Total HpCDD Total TCDF Total PeCDF Total PeCDF Total HxCDF Total HxCDF Total HyCDF	ND ND ND ND 2.96 ND 2.17 ND ND	2. 3. 6.	98 03 86 22 46 04 59 1.73		Toxic Equivalent Quotient (*TEQ (Min-Max): 0.00174 -  a. Sample specific estimated detection b. Estimated maximum possible conce c. Method detection limit. d. Lower control limit - upper control e. TEQ based on (2005) World Health	7.88  Ilimit. entration.	quivalent Factors.	(who)

Approved By:



Sample ID: M23.	-XAD-C1A-R2				Method 0023	A-8290A
	OM, Inc. ite Corp.		Sample Data Matrix: Sample Size:	MM5	A STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STA	14-Jan-11 16-Jan-11
Time Collected: NA	411-1 1				Date Analyzed DB-5: 19-Jan-11 Dates Analyzed DB-225:	19-Jan-11
Analyte	Conc. (pg/Sample)	DL a	EMPC ^b	Qualifiers	Labeled Standard %R LCL-UCL ^d Ou	alifiers
2,3,7,8-TCDD	3.59			J	<u>IS</u> 13C-2,3,7,8-TCDD 87.1 40 - 135	
1,2,3,7,8-PeCDD	6.79	1		J	13C-1,2,3,7,8-PeCDD 96.4 40 - 135	
1,2,3,4,7,8-HxCDD	ND	6.47		•	13C-1,2,3,6,7,8-HxCDD 78.9 40 - 135	
1,2,3,6,7,8-HxCDD	ND	6.03			13C-1,2,3,4,6,7,8-HpCDD 86.5 40 - 135	
1,2,3,7,8,9-HxCDD	ND	5.87	**		13C-OCDD 85.1 40 - 135	
1,2,3,4,6,7,8-HpCDD	13.4			J	13C-2,3,7,8-TCDF 81.0 40 - 135	
OCDD	13.0	*		J	13C-1,2,3,7,8-PeCDF 91.1 40 - 135	
2,3,7,8-TCDF	38.6				13C-1,2,3,6,7,8-HxCDF 87.9 40 - 135	
1,2,3,7,8-PeCDF	18.9	·		J	13C-1,2,3,4,6,7,8-HpCDF 78.4 40 - 135	
2,3,4,7,8-PeCDF	27.7			J	13C-OCDF 83.9 40 - 135	
1,2,3,4,7,8-HxCDF	7.55			J	<u>PS</u> 37Cl-2,3,7,8-TCDD 98.9 70 - 130	
1,2,3,6,7,8-HxCDF	ND		6.75		13C-2,3,4,7,8-PeCDF 97.9 70 - 130	
2,3,4,6,7,8-HxCDF	7.14			J	13C-1,2,3,4,7,8-HxCDD 101 70 - 130	
1,2,3,7,8,9-HxCDF	ND	3.19			13C-1,2,3,4,7,8-HxCDF 93.7 70 - 130	
1,2,3,4,6,7,8-HpCDF	7.45			J	13C-1,2,3,4,7,8,9-HpCDF 105 70 - 130	
1,2,3,4,7,8,9-HpCDF	ND	4.64	•		<u>AS</u> 13C-1,2,3,7,8,9-HxCDF 87.5 40 - 135	
OCDF	ND	11.1				
Totals					Toxic Equivalent Quotient (TEQ) Data	
Total TCDD	126	•	131		TEQ (Min-Max): 24.8 - 27.7	
Total PeCDD	80.2	•	94.0			
Total HxCDD	45.0		54.4		a. Sample specific estimated detection limit.	
Total HpCDD	26.3	2			b. Estimated maximum possible concentration.	
Total TCDF	1340	-			c. Method detection limit.	
Total PeCDF	301		312		d. Lower control limit - upper control limit.	
Total HxCDF	44.6		51.3		e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors (WHO	O)
Total HpCDF	7.45					•

Approved By:



Sample ID: M23	-PF-C	C1A-R2								Method 0	023A-8290A
Project: Norl	COM, In ite Cor an-11			Sample Data Matrix: Sample Size:	MM5 1 Sample	Lab QC	oratory Data Sample: Batch No.: Analyzed DB-5:	33016-010 3547 18-Jan-11	Date Re Date Ex Date An		14-Jan-11 16-Jan-11 NA
Analyte	Conc.	(pg/Sample)	DL a	EMPC ^b	Qualifiers		Labeled Stand	ard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND		1.94	•		<u>IS</u>	13C-2,3,7,8-TC	DD 🚅	90.5	40 - 135	. *
1,2,3,7,8-PeCDD	ND		2.39				13C-1,2,3,7,8-Pe	eCDD	102	40 - 135	
1,2,3,4,7,8-HxCDD	ND		4.76				13C-1,2,3,6,7,8-	HxCDD	80.1	40 - 135	There is a
1,2,3,6,7,8-HxCDD	ND		4.44				13C-1,2,3,4,6,7,	8-HpCDD	87.4	40 - 135	
1,2,3,7,8,9-HxCDD	ND		4.33				13C-OCDD		79.6	40 - 135	
1,2,3,4,6,7,8-HpCDD	ND		6.01				13C-2,3,7,8-TC	<b>OF</b>	87.1	40 - 135	
OCDD	ND		17.9				13C-1,2,3,7,8-Pe	eCDF	94.2	40 - 135	A Maria Cara
2,3,7,8-TCDF	ND		2.45				13C-1,2,3,6,7,8-	HxCDF	82.5	40 - 135	
1,2,3,7,8-PeCDF	ND	•	2.36				13C-1,2,3,4,6,7,	8-HpCDF	81.6	40 - 135	
2,3,4,7,8-PeCDF	ND		2.47				13C-OCDF		77.4	40 - 135	
1,2,3,4,7,8-HxCDF	ND		1.76		· · · · · · · · · · · · · · · · · · ·	<u>AS</u>	13C-1,2,3,7,8,9-	HxCDF	89.6	40 - 135	
1,2,3,6,7,8-HxCDF	ND		1.65								
2,3,4,6,7,8-HxCDF	ND		1.79								
1,2,3,7,8,9-HxCDF	ND		2.10								
1,2,3,4,6,7,8-HpCDF	ND.		3.54								
1,2,3,4,7,8,9-HpCDF	ND		2.75								
OCDF	ND		6.02								4 · ·
Totals						To	ric Equivalent Qu	otient (TEQ) D	ata e		
Total TCDD	ND		2.26			TE	Q (Min-Max): 0	- 7.60			
Total PeCDD	ND		3.40		•		-				
Total HxCDD	2.60					a. Sa	imple specific estimate	d detection limit.			
Total HpCDD	ND		6.83			b. E	stimated maximum pos	sible concentration.			
Total TCDF	ND		1.91			c. M	ethod detection limit.				•
Total PeCDF	ND		2.87			d. L	ower control limit - upp	er control limit.			
Total HxCDF	1.69					e. T	EQ based on (2005) W	orld Health Organizat	ion Toxic E	quivalent Factors.	(WHO)
Total HpCDF	ND		2.39		• •					•	•

Approved By:



Sample ID: M23.	-XAD-C1A-R3								Method 0	023A-8290A
	COM, Inc. ite Corp. an-11		Sample Data Matrix: Sample Size:	MM5 1 Sample	Laborator Lab Samp QC Batch Date Analy	le:	33016-011 3547 19-Jan-11	Date Re Date Ex Dates A		14-Jan-11 16-Jan-11 19-Jan-11
Analyte	Conc. (pg/Sample)	DL a	EMPC ^b	Qualifiers	La	ibeled Standa	rd	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	7.50			J	<u>IS</u> 130	C-2,3,7,8-TCD	D	87.4	40 - 135	
1,2,3,7,8-PeCDD	7.00			J	130	C-1,2,3,7,8-PeC	CDD	102	40 - 135	
1,2,3,4,7,8-HxCDD	ND	7.75			130	C-1,2,3,6,7,8-H	xCDD	79.9	40 - 135	
1,2,3,6,7,8-HxCDD	ND	7.22			130	C-1,2,3,4,6,7,8-	HpCDD	86.0	40 - 135	
1,2,3,7,8,9-HxCDD	ND	7.04			130	C-OCDD		87.7	40 - 135	
1,2,3,4,6,7,8-HpCDD	11.0			J	130	C-2,3,7,8-TCD	F	79.7	40 - 135	
OCDD	11.0			J	130	C-1,2,3,7,8-PeO	CDF	97.3	40 - 135	
2,3,7,8-TCDF	40.7				130	C-1,2,3,6,7,8-H	xCDF	88.5	40 - 135	
1,2,3,7,8-PeCDF	18.8			J	130	C-1,2,3,4,6,7,8-	HpCDF	81.1	40 - 135	
2,3,4,7,8-PeCDF	32.2			J	1	C-OCDF		86.2	40 - 135	
1,2,3,4,7,8-HxCDF	8.75		•	J	<u>PS</u> 370	C1-2,3,7,8-TCD	D	104	70 - 130	
1,2,3,6,7,8-HxCDF	8.90			J	130	C-2,3,4,7,8-Pe0	CDF	100	70 - 130	
2,3,4,6,7,8-HxCDF	7.64			J	130	C-1,2,3,4,7,8-H	xCDD	109	70 - 130	
1,2,3,7,8,9-HxCDF	ND	3.18			130	C-1,2,3,4,7,8-H	xCDF	100	70 - 130	
1,2,3,4,6,7,8-HpCDF	6.92			J	130	C-1,2,3,4,7,8,9-	HpCDF	103	70 - 130	
1,2,3,4,7,8,9-HpCDF	ND	4.66			<u>AS</u> 130	C-1,2,3,7,8,9-H	xCDF	92.2	40 - 135	
OCDF	ND	8.93				1.00				
Totals					Toxic E	quivalent Quo	tient (TEQ) Da	ta e		
Total TCDD	140		145	,	TEQ (M	lin-Max): 31	.5 - 34.1			
Total PeCDD	96.7		103						•	
Total HxCDD	16.7		67.5		a. Sample :	specific estimated	detection limit.			
Total HpCDD	25.3				b. Estimate	d maximum possi	ble concentration.			
Total TCDF	1510				c. Method	detection limit.				
Total PeCDF	341		353		d. Lower c	ontrol limit - uppe	r control limit.			
Total HxCDF	63.3				e. TEQ bas	sed on (2005) Wor	ld Health Organizatio	n Toxic E	quivalent Factors.(	WHO)
Total HpCDF	6.92	. • .								

Approved By:



Sample ID: M23	3-PF-C1A-R3					Method 00	23A-8290A
Project: Nor	COM, Inc. lite Corp. fan-11		Sample Data Matrix: Sample Size:	MM5	Laboratory Data           Lab Sample:         33016-012           QC Batch No.:         3547           Date Analyzed DB-5:         18-Jan-11	Date Received: Date Extracted: Date Analyzed DB-225:	14-Jan-11 16-Jan-11 NA
Analyte	Conc. (pg/Sample)	DL a	EMPC ^b	Qualifiers	Labeled Standard	%R LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,4,7,8-HxCDD 1,2,3,6,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,7,8-HxCDF 1,2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	ND ND ND ND ND ND ND ND ND ND ND ND ND N	1.42 2.94 3.80 3.54 3.45 6.80 11.6 2.60 2.41 2.48 1.54 1.44 1.56 1.84 3.56 1.63 6.00			IS 13C-2,3,7,8-TCDD 13C-1,2,3,7,8-PeCDD 13C-1,2,3,6,7,8-HxCDD 13C-0CDD 13C-2,3,7,8-TCDF 13C-1,2,3,7,8-PeCDF 13C-1,2,3,6,7,8-HxCDF 13C-1,2,3,4,6,7,8-HpCDF 13C-0CDF 13C-0CDF 13C-1,2,3,7,8,9-HxCDF	90.2 40 - 135 102 40 - 135 78.2 40 - 135 85.3 40 - 135 75.6 40 - 135 83.1 40 - 135 92.0 40 - 135 82.5 40 - 135 80.5 40 - 135 73.2 40 - 135 87.8 40 - 135	
Totals	· · · · · · · · · · · · · · · · · · ·				Toxic Equivalent Quotient (TEQ) Da	ata e	
Total TCDD Total PeCDD	2.17 ND	2.94			TEQ (Min-Max): 0 - 7.28		
Total HxCDD Total HpCDD Total TCDF Total PeCDF	3.36 ND ND ND	8.49 2.60 2.44			a. Sample specific estimated detection limit.     b. Estimated maximum possible concentration.     c. Method detection limit.     d. Lower control limit - upper control limit.		
Total HxCDF Total HpCDF	ND ND	1.58 3.89			e. TEQ based on (2005) World Health Organizati	on Toxic Equivalent Factors.(1	WHO)

Analyst: MAS

Approved By:



Sample ID: M23	-FB								Method 0	023A-8290 <i>A</i>
Project: Norl	COM, Inc. ite Corp. an-11		Sample Data Matrix: Sample Size:	MM5 I Sample	Lab QC	oratory Data Sample: Baitch No.: Analyzed DB-5:	33016-013 3547 18-Jan-11	Date Re Date Ex Date An		14-Jan-11 16-Jan-11 NA
Analyte	Conc. (pg/Sample)	DL a	EMPC ^b	Qualifiers		Labeled Standa	rd	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	1.69		de .	<u>IS</u>	13C-2,3,7,8-TCD	D	83.4	40 - 135	
1,2,3,7,8-PeCDD	ND	2.44				13C-1,2,3,7,8-Pe0	CDD	97.0	40 - 135	
1,2,3,4,7,8-HxCDD	ND	4.15				13C-1,2,3,6,7,8-H	IxCDD	74.9	40 - 135	
1,2,3,6,7,8-HxCDD	ND	3.87				13C-1,2,3,4,6,7,8	-HpCDD	78.7	40 - 135	
1,2,3,7,8,9-HxCDD	ND	3.77		geral en		13C-OCDD		70.8	40 - 135	
1,2,3,4,6,7,8-HpCDD	ND	5.45				13C-2,3,7,8-TCD	F	78.3	40 - 135	
OCDD	ND ·	14.5				13C-1,2,3,7,8-Pe0	CDF	87.4	40 - 135	
2,3,7,8-TCDF	ND	2.13			ŀ	13C-1,2,3,6,7,8-H	IxCDF	79.8	40 - 135	
1,2,3,7,8-PeCDF	ND	1.70				13C-1,2,3,4,6,7,8	-HpCDF	75.1	40 - 135	
2,3,4,7,8-PeCDF	ND	2.02				13C-OCDF		66.9	40 - 135	
1,2,3,4,7,8-HxCDF	ND	1.35			<u>PS</u>	37C1-2,3,7,8-TCE	DD	100	70 - 130	
1,2,3,6,7,8-HxCDF	ND	1.27				13C-2,3,4,7,8-Pe0	CDF	103	70 - 130	
2,3,4,6,7,8-HxCDF	ND	1.38				13C-1,2,3,4,7,8-H	IxCDD	108	70 - 130	
1,2,3,7,8,9-HxCDF	ND	1.62				13C-1,2,3,4,7,8-H	IxCDF	97.6	70 - 130	
1,2,3,4,6,7,8-HpCDF	ND	2.35				13C-1,2,3,4,7,8,9-	-HpCDF	94.2	70 - 130	. *
1,2,3,4,7,8,9-HpCDF	ND	2.60			<u>AS</u>	13C-1,2,3,7,8,9-H	IxCDF	85.1	40 - 135	
OCDF	ND	7.62								
Totals					Tox	cic Equivalent Quo	otient (TEQ) D	ata e		
Total TCDD	ND	2.36			TE	Q (Min-Max): 0 -	- 6.85			
Total PeCDD	ND	2.20				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ů.			
Total HxCDD	ND	3.92			a. Sa	mple specific estimated	detection limit.			
Total HpCDD	ND	4.72			1	timated maximum possi			•	
Total TCDF	ND	1.67			1	ethod detection limit.				
Total PeCDF	ND	2.02		•	d. Lo	wer control limit - uppe	r control limit.			
Total HxCDF	ND	1.39			i	Q based on (2005) Wor		ion Toxic Ed	uivalent Factors.(	WHO)
Total HpCDF	ND	2.35				. , , , , , ,	- 5			- <b>,</b> · .

Approved By:



## **APPENDIX**



## **DATA QUALIFIERS & ABBREVIATIONS**

This compound was also detected in the method blank.

D Dilution

E The amount detected is above the High Calibration Limit.

P The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.

H Recovery was outside laboratory acceptance limits.

J The amount detected is below the Low Calibration Limit.

* See Cover Letter

В

I

Conc. Concentration

DL Sample-specific estimated detection limit

**Chemical Interference** 

MDL The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.

**EMPC** Estimated Maximum Possible Concentration

NA Not applicable

RL Reporting Limit – concentrations that correspond to low calibration point

ND Not Detected

TEQ Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.



## **CERTIFICATIONS**

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-2008
State of Arizona	AZ0639
State of Arkansas, DEQ	08-043-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	N/A
State of Connecticut	PH-0182
State of Florida, DEP	E87777
State of Indiana Department of Health	C-CA-02
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA08000
State of Louisiana, DEQ	01977
State of Maine	2008024 .
State of Michigan	9932
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	NFESC413
State of Nevada	CA004132007A
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-006
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	TN02996
State of Texas	T104704189-08-TX
U.S. Army Corps of Engineers	N/A ·
State of Utah	CA16400
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

**AECOM** 

# Sample Packing and Traceability List

33016 2.7°C Ambient x 2

	Program: Norlite Corp.	Sample Date: // //-	13/11	Project Location:	Cohoes, NY	P.O. #:	10272ACM	
	Program: 2010 MACT CPT	Date Shipped:	113/11	Laboratory:	Vista Analytical		<b>克斯斯斯特尔西斯斯</b> 克斯特拉斯特士	
Project		Shipper / Doug Roec		Test Conditions:	C1RT = Condition 1			
·	n Office: Westford, MA	Recovery: Fred Sangue			C1A = Condition 1 F	MET EXTENSION PERSONS		
	n Contact: Doug Roeck			FedEx Air Bill #;	8739 6577 0163; 8739 6577 0174 & 8739 6577 0185			
Item	Sample ID Code	Sample Matrix		ple Description	Analitical Par	ameters	Special Instructions	
1	M23-XAD-C1RT-R1	XAD RESIN	XAD Resin Tra		PCDDs / PCDFs			
2	M23-PF-C1RT-R1	FILTER	PM Filter, C1R	T, Run 1	PCDDs / PCDFs			
3	M23-XAD-C1RT-R2	XAD RESIN	XAD Resin Tra	p, C1RT, Run 2	PCDDs / PCDFs			
4	M23-PF-C1RT-R2	FILTER	PM Filter, C1R	T, Run 2	PCDDs / PCDFs			
5	M23-XAD-C1RT-R3	XAD RESIN	XAD Resin Tra	p, C1RT, Run 3	PCDDs / PCDFs			
6	M23-PF-C1RT-R3	FILTER	PM Filter, C1R		PCDDs / PCDFs	·		
7				· · · · · · · · · · · · · · · · · · ·	7	·		
8	M23-XAD-C1A-R1	XAD RESIN	XAD Resin Tra	p, C1A, Run 1	PCDDs / PCDFs		"	
9	M23-PF-C1A-R1	FILTER	PM Filter, C1A,		PCDDs / PCDFs		<u> </u>	
10	M23-XAD-C1A-R2	XAD RESIN	XAD Resin Tra		PCDDs / PCDFs			
11	M23-PF-C1A-R2	FILTER	PM Filter, C1A,		PCDDs / PCDFs	<u></u>		
12	M23-XAD-C1A-R3	XAD RESIN	XAD Resin Tra	p, C1A, Run 3	PCDDs / PCDFs	· · ·		
13	M23-PF-C1A-R3	FILTER	PM Filter, C1A,	Run 3	PCDDs / PCDFs	<del></del>		
14	· · · · · · · · · · · · · · · · · · ·				-			
15	M23-XAD-FB	XAD RESIN	XAD Resin Trag	o, Field Blank	PCDDs / PCDFs	·		
16	M23-PF-FB	FILTER	PM Filter, Field	Blank	PCDDs / PCDFs	<del></del>		
17			,					
18								
19								
20								
Field No	tes/ Comments 1. Separate	front-half and back-half a	naivsis for PCD	Ds/PCDEs (except blan	ks and audit sample	96)	<u></u>	
		or PCDDs/PCDFs perform	•					
	· ·		<u></u>					
			*				Page of	
	shed By (print); Date:	Relinquished By (print):	Date:	Relinquished By (print)	): Date:	Received by Lat	(print); Date:	
Douglas	R. Roeck / 1/13/2/							
Signatur	By (print): Date: //4/// Date: //4/// Date: //4/// Date: //4///	Signature:	Time:	Signature:	Time:	Signature:	Time:	
Receive	By (print): Date: /	Received By (print):	Date:	Received By (print):	Date:	Analytical Labora	atory Destination:	
Betti	ia Benedict 1/14/11						Laboratories, Inc.	
Signatur	e: Time:	Signature:	Time:	Signature:	Time:	1104 Windfield	' I	
Dell.	istandit 1528			_		El Dorado Hills	· · · · · · · · · · · · · · · · · · ·	
1 XXXV	WINDY 100		ě.			1	aier (916)-933-1640	

# **AECOM**

# Sample Packing and Traceability List

33016

Site of Program: Norlite Corp. Sample Date: ///-/3 // Project Location: Cohoes, NY P.O. #: 10272ACM Type of Program: 2010 MACT CPT Date Shipped: ///3 // Laboratory: Vista Analytical Project #: 60163411 Shipper / Doug Roeck / Test Conditions: C1RT = Condition 1 Retest Program Office: Westford, MA Recovery: Fred Sanguedolce Program Contact: Doug Roeck FedEx Air Bill #: 8739 6577 0163; 8739 6577 0174 & 8739 6577 0185  Item Sample ID Code Sample Matrix Sample Description Analitical Parameters Special In	
Program Office:     Westford, MA     Recovery:     Fred Sanguedolce     C1A = Condition 1 Revised       Program Contact:     Doug Roeck     FedEx Air Bill #:     8739 6577 0163; 8739 6577 0174 & 8739 6577 0185       Item     Sample ID Code     Sample Matrix     Sample Description     Analitical Parameters     Special In	
Program Contact:Doug RoeckFedEx Air Bill #:8739 6577 0163; 8739 6577 0174 & 8739 6577 0185ItemSample ID CodeSample MatrixSample DescriptionAnalitical ParametersSpecial In	
Item Sample ID Code Sample Matrix Sample Description Analitical Parameters Special In	
	etructions
	ISH UCHONS
21 M23-FHR-C1RT-R1 Acetone/MeCt/Toluene M23 Front Half Rinse, C1RT, Run 1 PCDDs / PCDFs	
22 M23-FHR-C1RT-R2 Acetone/MeCl/Toluene M23 Front Half Rinse, C1RT, Run 2 PCDDs / PCDFs	
23 M23-FHR-C1RT-R3 Acetone/MeCl/Toluene M23 Front Half Rinse, C1RT, Run 3 PCDDs / PCDFs	
24	
25 M23-BHR-C1RT-R1 Abetone/MeCl/Toluene M23 Back Half Rinse, C1RT, Run 1 PCDDs / PCDFs	
26 M23-BHR-C1RT-R2 Acetone/MeCl/Toluene M23 Back Half Rinse, C1RT, Run 2 PCDDs / PCDFs	· · · · · · ·
27 M23-BHR-C1RT-R3 Acetone/MeCl/Toluene M23 Back Half Rinse, C1RT, Run 3 PCDDs / PCDFs	
28	
29 M23-FHR-C1A-R1 Acetone/MeCl/Toluene M23 Front Half Rinse, C1A, Run 1 PCDDs / PCDFs	
30 M23-FHR-C1A-R2 Acetone/MeCl/Toluene M23 Front Half Rinse, C1A, Run 2 PCDDs / PCDFs	
31 M23-FHR-C1A-R3 Acetone/MeCl/Toluene M23 Front Half Rinse, C1A, Run 3 PCDDs / PCDFs	· · · · · · · · · · · · · · · · · · ·
32	
33 M23-BHR-C1A-R1 Acetone/MeCi/Toluene M23 Back Half Rinse, C1A, Run 1 PCDDs / PCDFs	
34 M23-BHR-C1A-R2 Acetone/MeCl/Toluene M23 Back Half Rinse, C1A, Run 2 PCDDs / PCDFs	
35 M23-BHR-C1A-R3 Acetone/MeCl/Toluene M23 Back Half Rinse, C1A, Run 3 PCDBs / PCDFs	
36 N23-BITT-0174-10 Nectons mass Nectons mass Nectons nature (CTA, 17011-3 FCDBS) FCD1'S	
37 M23-FHR/BHR-FB Acetone/MeCl/Toluene M23 FH / BH Rinse Field Blank PCDDs / PCDFs 38	
39	
40	
	<u> </u>
Field Notes/ Comments  1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)	
2. Testing for PCDDs/PCDFs performed during both C1RT and C1A	
Page 🖊 of	: <u> </u>
Relinquished By (print): Date: Received by Lab (print): Date: Received by Lab (print):	Date:
Relinquished By (print): Date: Relinquished By (print): Date: Received by Lab (print): Douglas R. Roeck //13/1/	Date.
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	ļ
El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933	-1640



Vista Project #:	33016				TAT	unsp	ecific	<u>-</u> d
	Date/Time		Initials:		Location	:///	- <b>み</b>	
Samples Arrival:	1/14/11	1219	BU	Shelf/Ra				····
	Date/Time		Initials:		Location	: R1		
Logged In:	1/14/11 1527 (DAL			Shelf/Ra	ck:_//_	la_		
Delivered By:	FedEx	UPS	On Trac	DHL		and vered	Oth	ner
Preservation:	Ice	Bli	le lce	Dr	y Ice		None	
Temp °C 2,7	°C 7	Time: /6	127		Thermor	neter II	): IR-	2
						VEO	1110	114
Adaminto Carrala )	/al D	10				YES	NO	NA
Adequate Sample	·	/ea /					<u> </u>	
Holding Time Acce			,					<del> </del>
Shipping Container		•		···				
Shipping Custody S		• .					-	
Shipping Documen				<del> </del>		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
Airbill	Trk# <i>8</i>	7396	<u>777</u>	2163	<u> </u>		ļ .	
Sample Container	Intact?	·			· · · · · · · · · · · · · · · · · · ·			
Sample Custody S	eals Intact?					1/		ļ
Chain of Custody /	Sample Docur	mentation Pre	esent?	•		V		
COC Anomaly/San	nple Acceptant	ce Form com	pleted?		·		V	
If Chlorinated or Dr	inking Water S	Samples, Acc	eptable Pre	servatio				1
Na ₂ S ₂ O ₃ Preservation Documented? COC Sample Container								
Shipping Container Vista Client Retain Return							Disp	ose
Comments:								
Filters /	XAD's							

3 unused XAD'S 2 unused Fitters Per Mabilialia

Sample Login 3/2007 rmh



Vista Project #:

Samples Arrival:	Date/Time		•	Initials:	. 0	Loc	ation: W	R-2
	1/14/11	121	9	192	15	She	lf/Rack: <u></u> ∱	1/A
	Date/Time		1	Initials:	_	Loc	ation: $\beta$	
Logged In:	1/14/11	18	5件	_ M	B	She	lf/Rack:\	1/A
Delivered By:	FedEx	UF	s	On Trac	DHL	-	Hand Delivered	Other
Preservation:	Ice	e Blue		ue Ice	e Ice Dr		7	None
Temp °C Amble	Time: 1223			Thermometer ID: IR-2			<b>D</b> : IR-2	

						YES	NO	ΝA
Adequate Sample Volume Rece								
Holding Time Acceptable?	V							
Shipping Container(s) Intact?								
Shipping Custody Seals Intact?	,		V					
Shipping Documentation Present?								
Airbill Trk# 8739 6577 0185								
Sample Container Intact?								
Sample Custody Seals Intact?			٠.			1		
Chain of Custody / Sample Docu	ımentation P	resent?				V.	, .	
COC Anomaly/Sample Acceptar	ice Form con	npleted?	•				V	
If Chlorinated or Drinking Water	Samples, Ac	ceptable Pre	serv	ation?				V
Na ₂ S ₂ O ₃ Preservation Documented? COC Sample Container							None	
Shipping Container	Vista	Client Retain Retu			turn	Disp	ose)	

Comments:

Sample Login 3/2007 rmh



•	2221			•						
Vista Project #:	33016			TAT	ınsp	ecifi	<u>e</u> d			
	Date/Time	Initials:		Location	WR	-2				
Samples Arrival:	1/14/11 1219	BSI	6	Shelf/Rac						
	Date/Time	Initials:		Location	: W	2-30	JB.			
Logged In:	1/14/11 1508	SA	Shelf/R				ack: N/A			
Delivered By:	FedEx UPS	On Trac	DHL	Ha Deliv	l I	Otl	ner			
Preservation:	ice B	lue Ice	Dr	y Ice	<del></del>	None	$\supset$			
Temp °C Amb	ient Time: 12	125		Thermom	eter II	D: IR-	2 .			
					YES	NO	NA			
Adequate Sample \	Volume Received?				/					
Holding Time Acce	ptable?				V					
Shipping Container	(s) Intact?				1/					
Shipping Custody S	Seals Intact?	· · ·					1			
Shipping Documen	tation Present?				V					
Airbill	Trk# 87396	5770	174		V					
Sample Container	Intact?		· · · · · · · · · · · · · · · · · · ·		V					
Sample Custody Se	eals Intact?	-	•		V.,		ļ			
Chain of Custody /	Sample Documentation Pr	resent?			V.					
COC Anomaly/San	nple Acceptance Form con	npleted?				i'				
If Chlorinated or Dr	inking Water Samples, Ac	ceptable Pres	servation	1?			/			
Na₂S₂O₃ Preservati	ion Documented?	coc		Sample Container		None	<del></del>			
Shipping Container	Vista	Client	Retai	n Ret	urn	Disp	ose			
Comments:	•						-			
M23-FHR-CIRT-R1 ACE/Mecl/Toluene										
	-R2 · -R3						-			
Maa FHR-CIA	t-R1									
N	-R2				•					

M23-FAR/BAR-FB ACE/Mec//Toluenc

Sample Login 3/2007 rmh



1/14/2011

Vista Project ID: 33016

Mr. Doug Roeck AECOM, Inc. 2 Technology Park Drive Westford, MA 01886 USA

Dear Mr. Roeck,

The samples listed in the sample inventory were received by Vista Analytical Laboratory on 1/14/2011.

Please find attached:

- Terms and Conditions (reverse side of letter)
- Sample Inventory Report
- ♦ Chain-of-Custody
- Additional sample documentation (if applicable).
- Sample Log-In Checklist

Analytical results are scheduled to be reported to you on: 2/4/2011. All sample containers and their contents will be disposed of 90 days subsequent to issuance of a final report.

If you have any questions regarding the status of the work associated with these samples, please contact me at (916) 673-1520.

Sincerely,

Martha M. Maier

Laboratory Director

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अस्तिक विश्वविद्यालया है।

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### **TERMS AND CONDITIONS**

#### **ACCEPTANCE**

1.071 1911 9112 These terms and conditions are incorporated into, and made a part of every agreement for services between Vista Analytical Laboratory, Inc. ("Vista") and its client ("Client"). The Client accepts these terms and conditions by agreeing to purchase services from Vista or by sending samples to Vista.

14626

Allow Light Co.

#### **PAYMENT**

The Client shall pay in full within 30 days after the date that Vista invoices it for services rendered. No payment terms or conditions of purchase orders different from the terms of Vista will become part of any sales agreement, purchase order, or other document unless specifically approved in writing by Vista. Should suit be instituted to collect any debts of the undersigned, the client is responsible to pay all actual costs of collection and attorney's fees and interests on the past due amount at the highest rate legally available.

#### **TURNAROUND TIME**

Standard turnaround time is 21 days unless a shorter turnaround time is expressly agreed to by Vista. Turnaround time is defined as the number of calendar days between the first business day after Vista receives a sample or is authorized by the Client to perform an analysis on a sample, whichever occurs last, and the date that Vista transmits the final report for that sample to the Client. Rush orders, i.e., those that the Client requests to have analyzed in less than the standard turnaround time, will be subject to the additional charges set forth in the applicable quotation. Delays caused by acts of God, natural disasters. governmental actions, fires, floods and accidents, and other circumstances for which Vista is not responsible, shall not be counted in determining turnaround time.

#### SHIPPING

The Client is responsible for delivering its samples to Vista in good condition and the Client shall bear the risk of any loss of or damage to its samples during shipping. Vista reserves the right to refuse to accept delivery of, to refuse to analyze and/or to return any sample to the Client that is not delivered to Vista in good condition or that poses a health or safety risk. The Client shall pay the cost of returning such samples to it.

#### LIMITATION OF LIABILITY

Vista makes no representations, guarantees or warranties, express or implied, regarding the fitness of its reports for any particular use or purpose and Vista shall not be liable for consequential damages under any circumstance. The client's sole remedy is a refund of the amount that is paid Vista to analyze the sample in question. If Vista loses or damages a sample, after accepting it for analysis, Vista's liability shall not exceed the lessor of \$50 or the amount that the Client expended to obtain the sample.

#### INDEMNITY

The Client agrees to indemnify and defend Vista, and to hold Vista harmless, against any and all claims, actions, lawsuits, arbitration awards, judgements, damages, liabilities, expenses and costs, including attorneys' fees and court costs, arising out of, or related in any way to, the use to Vista's reports by the Client or by any third party who obtains Vista's reports from the Client.

Effective: 2/14/2007



## Section I: Sample Inventory Report

Date Received:

1/14/2011

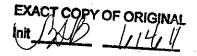
33016

Project No.: Project Name:

Norlite Corp.

Lab. Sample ID	Client Sample ID	Component ID
001	M23-XAD-C1RT-R1	BHR
		XAD
002	M23-PF-C1RT-R1	·FHR
		FILTER
003	M23-XAD-C1RT-R2	BHR
		XAD
004	M23-PF-C1RT-R2	FHR
		FILTER
005	M23-XAD-C1RT-R3	BHR
		XAD
006	M23-PF-CIRT-R3	FHR
		FILTER
007	M23-XAD-C1A-R1	BHR
•		XAD
008	M23-PF-C1A-R1	FHR
		FILTER
009	M23-XAD-C1A-R2	BHR
		XAD
010	M23-PF-C1A-R2	FHR
		FILTER
011	M23-XAD-C1A-R3	BHR
		XAD
012	M23-PF-C1A-R3	FHR
		FILTER
013	M23-FB	FHR/BHR
		FILTER
		XAD

Smpinvgnum5.rpt

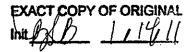


# **AECOM**

# Sample Packing and Traceability List

33016 2.7°C Ambient x 2

			<del> /</del>	T=		<del></del>	a. 10 ////
Site of Program:	Norlite Corp.		13/11	Project Location:	Cohoes, NY	P.O. #:	10272ACM
Type of Program:	2010 MACT CPT	Date Shipped: // Shipper / Doug Roeck	13/11	Laboratory: Test Conditions:	Vista Analytical C1RT = Condition 1	Batast	
Project #: Program Office:	60163411 Westford, MA	Shipper / Doug Roeck Recovery: Fred Sangue		rest Conditions:	C1A = Condition 1 F		
Program Contact:	Doug Roeck	Recovery. Fred Sanguet	uoice	FedEx Air Bill #:	8739 6577 0163; 87		8730 6577 0185
Item	Sample ID Code	Sample Matrix	Samo	le Description	Analitical Par		Special Instructions
		XAD RESIN	XAD Resin Trap		PCDDs / PCDFs	anieteis	Special Histractions
	-XAD-C1RT-R1		<u> </u>	<del> </del>			
	3-PF-C1RT-R1	FILTER	PM Filter, C1RT		PCDDs / PCDFs		
	-XAD-C1RT-R2	XAD RESIN	XAD Resin Trap		PCDDs / PCDFs		
	3-PF-C1RT-R2	FILTER	PM Filter, C1RT	<u>'</u>	PCDDs / PCDFs		
	-XAD-C1RT-R3	XAD RESIN	XAD Resin Trap	<u> </u>	PCDDs / PCDFs	. <u></u>	
	3-PF-C1RT-R3	FILTER	PM Filter, C1RT	, Run 3	PCDDs / PCDFs		
7 .	·						
8 <b>M2</b>	3-XAD-C1A-R1	XAD RESIN	XAD Resin Trap	, C1A, Run 1	PCDDs / PCDFs		
9 <b>M</b> 2	23-PF-C1A-R1	FILTER	PM Filter, C1A,	Run 1	PCDDs / PCDFs		
	3-XAD-C1A-R2	XAD RESIN	XAD Resin Trap	, C1A, Run 2	PCDDs / PCDFs		
	23-PF-C1A-R2	FILTER	PM Filter, C1A,	Run 2	PCDDs / PCDFs		
	3-XAD-C1A-R3	XAD RESIN	XAD Resin Trap	, C1A, Run 3	PCDDs / PCDFs		
	23-PF-C1A-R3	FILTER	PM Filter, C1A,		PCDDs / PCDFs		
14							
	//23-XAD-FB	XAD RESIN	XAD Resin Trap	. Field Blank	PCDDs / PCDFs		
	M23-PF-FB	FILTER	PM Filter, Field		PCDDs / PCDFs		
17 '	MIZO-1 1 -1 D						
18							
19							
20							
			<u> </u>				1
Field Notes/ Commo	•	e front-half and back-half a	-	•	nks and audit sampl	es)	
	2. Testing	for PCDDs/PCDFs perform	ed during <u>both</u> (	C1RT and C1A			
							1 1
						•	Page of
Relinguished By (prin	nt); Date:	Relinquished By (print):	Date:	Relinguished By (prin	t): Date:	Received by L	.ab (print): Date:
Douglas R. Roeck	1/13/11						W A
Signature	7 I Time:	Signature:	Time:	Signature:	Time:	Signature:	Time:
bloughes	RROAD Time: 18:00 Pate: 1/14/11 Time: 1528	1.3				3.3	1 1111/21
Received By (print):	Date:	Received By (print):	Date:	Received By (print):	Date:	Analytical Lah	oratory Destination:
Zatting Don	atich 1/14/11	pinity.		(pinit).	<b>B</b> 410.		cal Laboratories, Inc.
Signature:	Time!	Signature:	Time:	Signature:	Time:	1104 Windfie	·
M 11 · 1/1/2	111 15 nB	Cignoture.	11110,	Oignaturo.	iniie.	ll .	ills, CA 95762
Bullin	OUT 1525					ll .	Maier, (916)-933-1640
FICVP1120F01		<u> </u>	Appendix C/	AAA		Il iman manara	Norlite, LLC



# **AECOM**

# Sample Packing and Traceability List 3301/

Site of I	Program: Norlite Corp.	Sample Date: 1/1/-	13/11	Project Location:	Cohoes, NY	P.O. #:	10272ACM
	Program: 2010 MACT CPT	Date Shipped: //	13/11	Laboratory:	Vista Analytical	•	事門を受ける。 第二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十
Project		Shipper / Doug Roeck		Test Conditions:	C1RT = Condition 1 R		
	m Office: Westford, MA	Recovery: Fred Sangued	CANTON CALL A STAFF IN CO. T. C. C. C. C. C. C. C. C. C. C. C. C. C.		C1A = Condition 1 Re		To a real at the second second
	n Contact: Doug Roeck	Alberta Errentiga (E.C.)		FedEx Air Bill #:	8739 6577 0163; 873		
Item	Sample ID Code	Sample Matrix		e Description	Analitical Paran	neters	Special Instructions
21	M23-FHR-C1RT-R1	Acetone/MeCl/Toluene	M23 Front Half	Rinse, C1RT, Run 1	PCDDs / PCDFs		
22	M23-FHR-C1RT-R2	Acetone/MeCl/Toluene	M23 Front Half	Rinse, C1RT, Run 2	PCDDs / PCDFs		
23	M23-FHR-C1RT-R3	Acetone/MeCl/Taluene	M23 Front Half	Rinse, C1RT, Run 3	PCDDs / PCDFs		
24							
25	M23-BHR-C1RT-R1	Acetone/MeCl/Toluene	M23 Back Half I	Rinse, C1RT, Run 1	PCDDs / PCDFs		
26	M23-BHR-C1RT-R2	Acetone/MeCl/Toluene	M23 Back Half I	Rinse, C1RT, Run 2	PCDDs / PCDFs		
27	M23-BHR-C1RT-R3	Acetone/MeCi/Toluene	M23 Back Half I	Rinse, C1RT, Run 3	PCDDs / PCDFs		
28							
29	M23-FHR-C1A-R1	Acetone/MeCt/Toluene	M23 Front Half	Rinse, C1A, Run 1	PCDDs / PCDFs		
30	M23-FHR-C1A-R2	Acetone/MeCl/Toluene	M23 Front Half	Rinse, C1A, Run 2	PCDDs / PCDFs	·	
31	M23-FHR-C1A-R3	Acetone/MeCI/Toluene	M23 Front Half	Rinse, C1A, Run 3	PCDDs / PCDFs		·
32							
33	M23-BHR-C1A-R1	Acetone/MeCl/Toluene	M23 Back Half I	Rinse, C1A, Run 1	PCDDs / PCDFs		
34	M23-BHR-C1A-R2	Acetone/MeCl/Toluene	M23 Back Half I	Rinse, C1A, Run 2	PCDDs / PCDFs		
35	M23-BHR-C1A-R3	Acetone/MeCI/Toluene	M23 Back Half I	Rinse, C1A, Run 3	PCDDs / PCDFs		
36							
37	M23-FHR/BHR-FB	Acetone/MeCI/Toluene	M23 FH/BHRi	nse Field Blank	PCDDs / PCDFs	•	
38							
. 39							
40							
Field No	otes/ Comments 1. Separate	front-half and back-half a	nalysis for PCDE	s/PCDFs (except blan	ks and audit samples	s)	"
		for PCDDs/PCDFs perform					
		•					Page / of /
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Betti	ina Benedict 1/14/11			,		Vista Analytica	l Laboratories, Inc.
Signatu	re: \( \) Time:	Signature:	Time:	Signature:	Time:	1104 Windfield	Way
Kallen	re: Time: 1578					El Dorado Hills	,
2001/10	Maria 1300.			·		Attn: Martha M	aier, (916)-933-1640

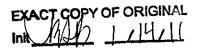
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Vista Project #:	33016				TAT	usp	ecific	<u>-d</u>
	Date/Time	- · · · · · · · ·	Initials:		Location	:WR-	7	
Samples Arrival:	1/14/11	1219	BU	5	Shelf/Ra	<b>V</b> - '	<i>,</i>	
,	Date/Time		Initials:	<u> </u>	Location	: R1		
Logged In:	1/14/11	1527	430	В	Shelf/Ra	ck:_∭,	IA_	
Delivered By:	FedEx	UPS	On Trac	DHL	1	and vered	Oth	ner
Preservation:	Ice	Bli	ue Ice	Dr	y Ice		None	
Temp °C 2,7	C	Time: 18	127		Thermor	neter II	D: IR-	2
						YES	NO	NIA
Adequate Sample	Valuma Pasai	uod?				1123	NO	NA
Adequate Sample		veu :	·.	,		V		
Holding Time Acce Shipping Container					<del>.</del>			
Shipping Custody S		<del>.,</del>						
Shipping Documen		12				1		
Airbill		37396	517 (	2/62	2	1		
Sample Container		/1./   <del> </del>		<del>, , , ,</del>		V		
Sample Custody S				•	. •	V		
Chain of Custody /		mentation Pr	esent?	· · · · · · · · · · · · · · · · · · ·	<del></del>	V	1	
COC Anomaly/San	·····						V	
If Chlorington on Dr	inkina Motor I	Camples Ass	ontoble Dec		-2			1
If Chlorinated or Dr			COC.	servatio	Sample		None	<u></u>
Na₂S₂O₃ Preservat	· · · · · · · · · · · · · · · · · · ·				Container	1(	-	
Shipping Container		Vista	Client	Reta	in ) Re	eturn	Disp	ose
Comments: Filters /	YAD's							. •

3 nnused XAD'S 2 unused Fitters Petridishes
PSB/14/11



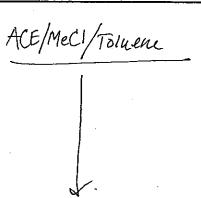


Vista Project #: 33016 TAT UNSPECIFIED										
	Date/Time		•	Initials:	,	Lo	cation	: WK	-2	
Samples Arrival:	1/14/11	1219		PS	B	ì		:k: <u>//</u>	1 4	
	Date/Time		1	Initials:		Lo	cation	: R		
Logged In:	1/14/11	151	<b>+</b>	B	B	Sh	elf/Rac	:k: <u>N</u>	la_	
Delivered By:	FedEx	UPS		On Trac	DHL	-	Ha Deliv	ſ	Oth	ner
Preservation:	lce		Blu	e Ice	Dı	у Ісе		9	None	$\overline{}$
Temp °C Amble	nt -	Γime:	122	3		The	ermon	eter IC	): IR-	2
						o Lesio Descri				
		5,45,07						YES	NO	NA
Adequate Sample	Volume Receiv	/ed?						V		
Holding Time Acce	ptable?							V		
Shipping Container	(s) Intact?									
Chinain a Contado do	) l - l 10		,							./

Adequate Sample Volume Recei		V							
Holding Time Acceptable?									
Shipping Container(s) Intact?						1			
Shipping Custody Seals Intact?									
Shipping Documentation Presen	t?			·					
Airbill Trk#	8739 6	5770	185						
Sample Container Intact?									
Sample Custody Seals Intact?			٠.			7			
Chain of Custody / Sample Documentation Present?									•
COC Anomaly/Sample Acceptance Form completed?							V		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?									~
Na ₂ S ₂ O ₃ Preservation Documented? COC Sample Container								ne	$\sum$
Shipping Container	Vista	Client	Re	tain	Re	turn	6	ispo	ose)

Comments:

M23-BHR-CIA-RI ACE/MeCI/Toluene
-R2
-R3 M23-BHR-CIRT-R1 -R2



EXACT COPY	
init half	1,19,11



Samples Arrival:	Vista Project #:	3301K	)			TAT_	unsp	ecif	ied
Delivered By: FedEx UPS On Trac DHL Hand Other Preservation: Ice Blue Ice Dry Ice None  Temp °C Ambient Time: 1225 Thermometer ID: IR-2  YES NO NA  Adequate Sample Volume Received?  Holding Time Acceptable?  Shipping Container (s) Intact?  Sample Custody Seals Intact?  Chain of Custody / Sample Documentation Present?  COC Anomaly/Sample Acceptance Form completed?  If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na ₂ S ₂ O ₃ Preservation Documented?  Coc Sample Container Vista Client Retain Return Dispose Comments:  M23-FHR-C1R-R1 ACE/McCl/Tolluche  R2 -R3  M23-FHR-C1A-R1 -R2	-	Date/Time		Initials:		Locatio	on: WK	-2	
Logged In:    Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:   Image:	Samples Arrival:	1/14/16	1219	J GSJ	В	Shelf/R	ack:	1/A	
Delivered By: FedEx UPS On Trac DHL Hand Delivered Other  Preservation: Ice Blue Ice Dry Ice None  Temp °C Ambrent Time: 122,5 Thermometer ID: IR-2  YES NO NA  Adequate Sample Volume Received?  Holding Time Acceptable?  Shipping Container(s) Intact?  Shipping Custody Seals Intact?  Shipping Documentation Present?  Airbill Trk # 8739 (577 0174  Sample Container Intact?  Sample Custody Seals Intact?  Chain of Custody / Sample Documentation Present?  COC Anomaly/Sample Acceptance Form completed?  If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na ₂ S ₂ O ₃ Preservation Documented?  Coc Sample Container Vista Client Retain Return Dispose  Comments:  M23-FHR-C1RT-R1 ACE/McCl/Tbluene  -R2 -R3  123-FHR-C1A-R1 -R2		Date/Time		Initials:		Location	on: 🕠	Ra	žB
Preservation: Ice Blue Ice Dry Ice None Temp °C Ambient Time: 1225 Thermometer ID: IR-2  YES NO NA Adequate Sample Volume Received? Holding Time Acceptable? Shipping Container(s) Intact? Shipping Custody Seals Intact? Shipping Documentation Present? Airbill Trk # 8739 (5777 0174 V Sample Container Intact? Sample Custody Seals Intact? Chain of Custody / Sample Documentation Present? COC Anomaly/Sample Acceptance Form completed? If Chlorinated or Drinking Water Samples, Acceptable Preservation? Na ₂ S ₂ O ₃ Preservation Documented? Coc Sample Container Shipping Container Vista Client Retain Return Dispose Comments:  M33-FHR-C1A-R1 -R2  1235 Thermometer ID: IR-2  VES NO NA  YES NO NA  YES NO NA  YES NO NA  YES NO NA  YES NO NA  YES NO NA  Adequate Sample Color Intact?  COC Sample Container None  Shipping Container Vista Client Retain Return Dispose  Comments:  M33-FHR-C1A-R1 -R2	Logged in:	1/14/11	1508	S	0	Shelf/R	tack: <u>/</u>	1/A	<u> </u>
Preservation: Ice Blue Ice Dry Ice None  Temp °C Ambrend Time: 1225  Thermometer ID: IR-2  YES NO NA  Adequate Sample Volume Received?  Holding Time Acceptable?  Shipping Container(s) Intact?  Shipping Custody Seals Intact?  Shipping Documentation Present?  Airbill Trk # 873965770174  Sample Container Intact?  Sample Custody Seals Intact?  Chain of Custody / Sample Documentation Present?  COC Anomaly/Sample Acceptance Form completed?  If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na2SzO3 Preservation Documented?  COC Sample Container  None  Shipping Container  Vista Client Retain Return Dispose  Comments:  M33-FHR - C1RT-R1 ACE/McCl/Tolluche  - R2 - R3  123-FHR-C1A-R1 - R2	Delivered By:	FedEx	UPS	On Trac	DHI			Otl	ner
YES NO NA  Adequate Sample Volume Received?  Holding Time Acceptable?  Shipping Container(s) Intact?  Shipping Custody Seals Intact?  Shipping Documentation Present?  Airbill Trk # 8739 (57770174  Sample Container Intact?  Sample Custody Seals Intact?  Chain of Custody / Sample Documentation Present?  COC Anomaly/Sample Acceptance Form completed?  If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na ₂ S ₂ O ₃ Preservation Documented?  COC Sample Container  Shipping Container  Vista Client Retain Return bispose  Comments:  M23-FHR-C1RT-R1 ACE/McCl/Tbluene  -R2 -R3  123-FHR-C1A-R1 -R2	Preservation:	Ice	В	lue Ice	D		(	None	$\supset$
Adequate Sample Volume Received?  Holding Time Acceptable?  Shipping Container(s) Intact?  Shipping Custody Seals Intact?  Shipping Documentation Present?  Airbill Trk # 8739 6577 0174  Sample Container Intact?  Sample Custody Seals Intact?  Chain of Custody / Sample Documentation Present?  COC Anomaly/Sample Acceptance Form completed?  If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na ₂ S ₂ O ₃ Preservation Documented?  COC Sample Container  None  Shipping Container  Vista Client Retain Return Dispose  Comments:  M23-FHR-C1RT-R1 ACE/McCl/Tbluene  -R2 -R3  123-FHR-C1A-R1 -R2	Temp °C Amb	ient	Time: /2	25		Thermo	ometer l	D: IR-	2
Holding Time Acceptable?  Shipping Container(s) Intact?  Shipping Custody Seals Intact?  Shipping Documentation Present?  Airbill Trk # 8739 6577 0174  Sample Container Intact?  Sample Custody Seals Intact?  Chain of Custody / Sample Documentation Present?  COC Anomaly/Sample Acceptance Form completed?  If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na ₂ S ₂ O ₃ Preservation Documented?  COC Sample Container  None  Shipping Container  Vista Client Retain Return Dispose  Comments:  M23-FHR-C1RT-R1 ACE/McCl/Tollucne  -R2 -R3  123-FHR-C1A-R1 -R2							YES	NO	NA
Shipping Container(s) Intact?  Shipping Custody Seals Intact?  Shipping Documentation Present?  Airbill Trk # 873965770174  Sample Container Intact?  Sample Custody Seals Intact?  Chain of Custody / Sample Documentation Present?  COC Anomaly/Sample Acceptance Form completed?  If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na ₂ S ₂ O ₃ Preservation Documented?  COC Sample Container  None  Shipping Container  Vista Client Retain Return Dispose  Comments:  M23-FHR-C1RT-R1 ACE/McCl/Tolluche  -R2 -R3  123-FHR-C1A-R1 -R2	Adequate Sample	Volume Rece	ived?				·		
Shipping Custody Seals Intact?  Shipping Documentation Present?  Airbill Trk# 873965770174  Sample Container Intact?  Sample Custody Seals Intact?  Chain of Custody / Sample Documentation Present?  COC Anomaly/Sample Acceptance Form completed?  If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na ₂ S ₂ O ₃ Preservation Documented?  COC Sample Container  None  Shipping Container  Vista Client Retain Return Dispose  Comments:  M23-FHR-C1RT-R1 ACE/McCl/Tollucne  -R2 -R3  M23-FHR-C1A-R1 -R2	Holding Time Acce	ptable?					V		
Shipping Documentation Present?  Airbill Trk # 8739 6577 0174  Sample Container Intact?  Sample Custody Seals Intact?  Chain of Custody / Sample Documentation Present?  COC Anomaly/Sample Acceptance Form completed?  If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na ₂ S ₂ O ₃ Preservation Documented?  COC Sample Container  None  Shipping Container  Vista Client Retain Return Dispose  Comments:  M23-FHR-C1RT-R1 ACE/McCI/Tollucne  -R2 -R3  M23-FHR-C1A-R1 -R2	Shipping Containe	r(s) Intact?	· · · · · ·						
Airbill Trk # 873965770174  Sample Container Intact?  Sample Custody Seals Intact?  Chain of Custody / Sample Documentation Present?  COC Anomaly/Sample Acceptance Form completed?  If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na ₂ S ₂ O ₃ Preservation Documented?  COC Sample Container  None  Shipping Container  Vista Client Retain Return Dispose  Comments:  M23-FHR-C1RT-R1 ACE/McCl/Toluene  -R2 -R3  M23-FHR-C1A-R1 -R2	Shipping Custody	Seals Intact?					/		1
Sample Container Intact?  Sample Custody Seals Intact?  Chain of Custody / Sample Documentation Present?  COC Anomaly/Sample Acceptance Form completed?  If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na ₂ S ₂ O ₃ Preservation Documented?  COC Sample Container  None  Shipping Container  Vista Client Retain Return Dispose  Comments:  M23-FHR-C1RT-R1 ACE/McCl/Tbluene  -R2 -R3  M23-FHR-C1A-R1 -R2	Shipping Documen						1/	4.	
Sample Custody Seals Intact?  Chain of Custody / Sample Documentation Present?  COC Anomaly/Sample Acceptance Form completed?  If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na ₂ S ₂ O ₃ Preservation Documented?  COC Sample Container  None  Shipping Container  Vista Client Retain Return Dispose  Comments:  M23-FHR-C1RT-R1 ACE/McCl/Tbluene  -R2 -R3  123-FHR-C1A-R1 -R2	Airbill	Trk #	87396	5470	174		V	<u> </u>	
Chain of Custody / Sample Documentation Present?  COC Anomaly/Sample Acceptance Form completed?  If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na ₂ S ₂ O ₃ Preservation Documented?  COC Sample Container  None  Shipping Container  Vista Client Retain Return Dispose  Comments:  M23-FHR-C1RT-R1 ACE/McCl/Tbluene  -R2 -R3  123-FHR-C1A-R1 -R2	Sample Container	Intact?					V		
COC Anomaly/Sample Acceptance Form completed?  If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na ₂ S ₂ O ₃ Preservation Documented?  COC Sample Container  None  Shipping Container  Vista Client Retain Return Dispose  Comments:  M23-FHR-C1RT-R1 ACE/McCl/Tolluene  -R2  -R3  123-FHR-C1A-R1  -R2	Sample Custody S	eals intact?					V		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?  Na ₂ S ₂ O ₃ Preservation Documented?  COC Sample Container  None  Shipping Container  Vista Client Retain Return Dispose  Comments:  M23-FHR-C1RT-R1 ACE/McCl/Tollucne  -R2  -R3  123-FHR-C1A-R1  -R2	Chain of Custody /	Sample Doci	umentation P	resent?			V		·
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	COC Anomaly/San	nple Acceptar	nce Form con	npleted?		<u> </u>		V	
Shipping Container  Shipping Container  Vista  Client  Retain  Return  Dispose  Comments:  M23-FHR-C1RT-R1  -R2  -R2  -R2	If Chlorinated or Dr	inking Water	Samples, Ac	ceptable Pre	eservatio	n?			
Comments:  M23-FHR-C1RT-R1 ACE/McCl/Toluene  -R2  -R3  123-FHR-C1A-R1  -R2	Na₂S₂O₃ Preservat	ion Documen	ted?	COC		•		None	<del>)</del>
M23-FHR-CIRT-R1 ACE/McCI/Toluene -R2 -R3 123-FHR-CIA-R1 -R2	Shipping Container	ſ	Vista	Client	Reta	in F	Return	<b>O</b> isp	ose
123 FHR-CIA-R1 -R2	Comments:						•		
123 FHR-CIA-RI -R2			ACE/Mec	1/Toluena	2				
-R2		-R2 -R3						•	
	Ma3 FHR-C1	4-R1							
	.1,		•						

NEICVA1120E0 FIR/BHR-FB ACE/MeCI/Toluem Appendix CAA A Page 1002 of 1159

Sample Login 3/2007 rmh

Norlite, LLC Cohoes, New York



January 4, 2011

Mr. Doug Roeck AECOM Inc. 2 Technology Park Drive Westford, MA 01886

Dear Mr. Roeck,

Enclosed are ten cleaned and pre-spiked XAD cartridges. Each cartridge has been prepared for the analysis of polychlorinated dioxins/furans (PCDDs/PCDFs) by EPA Method 0023A using HRMS. Also enclosed are ten cleaned 90mm glass fiber filters and ten cleaned petri dish sets.

If you have any questions regarding the enclosed items, please do not hesitate to contact me at (916) 673-1520 or cvredevoe@vista-analytical.com.

Sincerely

Christina Vredevoe

Scientist

Vista Analytical Laboratory, Inc.



November 11, 2010

Vista Project I.D.: 32881

Mr. Doug Roeck AECOM, Inc. 2 Technology Park Drive Westford, MA 01886

Dear Mr. Roeck,

Enclosed are the results for the seven MM5 samples received at Vista Analytical Laboratory on October 22, 2010 under your Project Name "Norlite Corp.". This work was authorized under your Purchase Order No. 10272ACM. These samples were extracted and analyzed using Method 0023A-8290A for tetra-through-octa chlorinated dioxins and furans. The front and back halves of each sample train, except the field blank, were extracted and analyzed separately. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Vista's current certifications, and copies of the raw data (if requested).

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com. Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha M. Maier Laboratory Director

Kallo Woier



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista Analytical Laboratory.





## Section I: Sample Inventory Report

Date Received:

10/22/2010

Project No.: Project Name:

32881 Norlite Corp.

Lab. Sample ID	Client Sample ID	Component ID
001	M23-XAD-C1-R1	BHR
		XAD
002	M23-PF-C1-R1	FHR
		FILTER
003	M23-XAD-C1-R2	BHR
		XAD
004	M23-PF-C1-R2	FHR
		FILTER
005	M23-XAD-C1-R3	BHR
		XAD
006	M23-PF-C1-R3	FHR
		FILTER
007	M23-XAD-C2-R1	BHR
		XAD
008	M23-PF-C2-R1	FHR
		FILTER
009	M23-XAD-C2-R2	BHR
		XAD
010	M23-PF-C2-R2	FHR
		FILTER
011	M23-XAD-C2-R3	BHR
		XAD
012	M23-PF-C2-R3	FHR
		FILTER
013	M23-XAD/PF-FB	FHR/BHR
		FILTER
		XAD .

Smpinvgnmm5.rpt



## **SECTION II**



Method Blank				* *1 **	Method 0023A-8290A
Matrix: MM5	QC Batch No.:	3395	Lab Sample: 0-MB001		
Sample Size: Sample	Date Extracted:	27-Oct-10	Date Analyzed DB-5: 1-Nov-10	Date Ar	nalyzed DB-225: NA
Analyte Conc. (p	g/Sample) DL ^a I	EMPC b Qualifiers	Labeled Standard	%R	LCL-UCL ^d Qualifiers
2,3,7,8-TCDD N	ND 1.64		<u>IS</u> 13C-2,3,7,8-TCDD	105	40 - 135
1,2,3,7,8-PeCDD N	ND 3.50		13C-1,2,3,7,8-PeCDD	113	40 - 135
1,2,3,4,7,8-HxCDD N	ND 4.22		13C-1,2,3,6,7,8-HxCDD	99.3	40 - 135
1,2,3,6,7,8-HxCDD N	ND 3.93		13C-1,2,3,4,6,7,8-HpCDD	101	40 - 135
1,2,3,7,8,9-HxCDD N	ND 3.83		13C-OCDD	88.9	40 - 135
1,2,3,4,6,7,8-HpCDD N	ND 3.29		13C-2,3,7,8-TCDF	99.4	40 - 135
OCDD N	VD 4.41		13C-1,2,3,7,8-PeCDF	99.3	40 - 135
2,3,7,8-TCDF	ND 0.879		13C-1,2,3,6,7,8-HxCDF	96.1	40 - 135
1,2,3,7,8-PeCDF N	ND 1.33		13C-1,2,3,4,6,7,8-HpCDF	84.2	40 - 135
2,3,4,7,8-PeCDF N	ND 1.37	•	13C-OCDF	82.4	40 - 135
1,2,3,4,7,8-HxCDF	ND 1.22		<u>PS</u> 37Cl-2,3,7,8-TCDD	95.9	70 - 130
1,2,3,6,7,8-HxCDF	ND 1.15		13C-2,3,4,7,8-PeCDF	91.9	70 - 130
2,3,4,6,7,8-HxCDF	ND 1.24		13C-1,2,3,4,7,8-HxCDD	91.4	70 - 130
1,2,3,7,8,9-HxCDF	ND 1.46		13C-1,2,3,4,7,8-HxCDF	90.5	70 - 130
1,2,3,4,6,7,8-HpCDF	√D 1.69		13C-1,2,3,4,7,8,9-HpCDF	90.4	70 - 130
1,2,3,4,7,8,9-HpCDF N	ND 2.04		<b>AS</b> 13C-1,2,3,7,8,9-HxCDF	95.7	40 - 135
OCDF N	ND 3.51				
Totals			Toxic Equivalent Quotient (TEQ) Da	ıta ^e	,
Total TCDD N	ID 1.64		TEQ (Min-Max): 0 - 6.01		
	ND 3.50				•
	ID 3.99		a. Sample specific estimated detection limit.		
	ND 3.29		b. Estimated maximum possible concentration.		
•	ID 0.879		c. Method detection limit.		
	ND 1.35		d. Lower control limit - upper control limit.		
	ND 1.26		e. TEQ based on (1989) International Toxic Equiv	alent Factors	(ITEF).
	ID 1.85				•

Analyst: MAS

Approved By:

Martha M. Maier 11-Nov-2010 09:41



OPR Results		, , , , , , , , , , , , , , , , , , , ,		Method 0	023A-8290A
Matrix: MM5	QC Batch No.:	3395	Lab Sample: 0-OPR001		
Sample Size: Sample	Date Extracted:	27-Oct-10	Date Analyzed DB-5: 1-Nov-10	Date Analyzed	DB-225: NA
Analyte	Spike Conc. Conc. (ng/mL)	OPR Limits	Labeled Standard	%R L	CL-UCL Qualifier
2,3,7,8-TCDD	2.50 2.65	1.75 - 3.25	<u>IS</u> 13C-2,3,7,8-TCDD	103	40 - 135
1,2,3,7,8-PeCDD	12.5 12.5	8.75 - 16.25	13C-1,2,3,7,8-PeCDD	108	40 - 135
1,2,3,4,7,8-HxCDD	12.5 11.5	8.75 - 16.25	13C-1,2,3,6,7,8-HxCDD	97.5	40 - 135
1,2,3,6,7,8-HxCDD	12.5 13.0	8.75 - 16.25	13C-1,2,3,4,6,7,8-HpCDD	100	40 - 135
1,2,3,7,8,9-HxCDD	12.5 12.8	8.75 - 16.25	13C-OCDD	91.1	40 - 135
1,2,3,4,6,7,8-HpCDD	12.5 10.9	8.75 - 16.25	13C-2,3,7,8-TCDF	96.1	40 - 135
OCDD	25.0 22.3	17.5 - 32.5	13C-1,2,3,7,8-PeCDF	95.5	40 - 135
2,3,7,8-TCDF	2.50 2.21	1.75 - 3.25	13C-1,2,3,6,7,8-HxCDF	95.0	40 - 135
1,2,3,7,8-PeCDF	12.5 10.9	8.75 - 16.25	13C-1,2,3,4,6,7,8-HpCDF	- 85.8	40 - 135
2,3,4,7,8-PeCDF	12.5 10.7	8.75 - 16.25	13C-OCDF	81.9	40 - 135
1,2,3,4,7,8-HxCDF	12.5 11.1	8.75 - 16.25	<u>AS</u> 13C-1,2,3,7,8,9-HxCDF	97.2	40 - 135
1,2,3,6,7,8-HxCDF	12.5 12.6	8.75 - 16.25			
2,3,4,6,7,8-HxCDF	12.5 11.8	8.75 - 16.25			
1,2,3,7,8,9-HxCDF	12.5 11.6	8.75 - 16.25			-
1,2,3,4,6,7,8-HpCDF	12.5 11.4	8.75 - 16.25			
1,2,3,4,7,8,9-HpCDF	12.5 10.8	8.75 - 16.25			
OCDF	25.0 22.6	17.5 - 32.5			

Analyst: MAS

Approved By:

Martha M. Maier 11-Nov-2010 09:41



Sample ID: M23-	XAD-C1-R1						Method 0	023A-8290A
	OM, Inc. te Corp. ct-10	Sample Data  Matrix:  Sample Size:	MM5 1 Sample	Laboratory Data Lab Sample: QC Batch No.: Date Analyzed DB-5:	32881-001 3395 2-Nov-10	Date Re Date Ex Dates A		22-Oct-10 27-Oct-10 3-Nov-10
Analyte (	Conc. (pg/Sample) DL	a EMPC ^b	Qualifiers	Labeled Stan	dard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	51.6			<u>IS</u> 13C-2,3,7,8-T0	CDD	108	40 - 135	
1,2,3,7,8-PeCDD	29.6		, J	13C-1,2,3,7,8-	PeCDD	121	40 - 135	
1,2,3,4,7,8-HxCDD	5.80		J	13C-1,2,3,6,7,8	8-HxCDD	109	40 - 135	-
1,2,3,6,7,8-HxCDD	12.0		J	13C-1,2,3,4,6,7	7,8-HpCDD	113	40 - 135	
1,2,3,7,8,9-HxCDD	ND	5.10		13C-OCDD		99.9	40 - 135	
1,2,3,4,6,7,8-HpCDD	26.1		J	13C-2,3,7,8-T	CDF	101	40 - 135	
OCDD	15.4		J	13C-1,2,3,7,8-	PeCDF	105	40 - 135	
2,3,7,8-TCDF	1000			13C-1,2,3,6,7,8	8-HxCDF	95.5	40 - 135	
1,2,3,7,8-PeCDF	346			13C-1,2,3,4,6,7	7,8-HpCDF	85.2	40 - 135	
2,3,4,7,8-PeCDF	584			13C-OCDF		90.3	40 - 135	
1,2,3,4,7,8-HxCDF	113			<b>PS</b> 37Cl-2,3,7,8-T	CDD	96.6	70 - 130	
1,2,3,6,7,8-HxCDF	112			13C-2,3,4,7,8-	PeCDF	93.4	70 - 130.	
2,3,4,6,7,8-HxCDF	75.6			13C-1,2,3,4,7,8	8-HxCDD	88.9	70 - 130	
1,2,3,7,8,9-HxCDF	23.9		J	13C-1,2,3,4,7,8	3-HxCDF	92.8	70 - 130	
1,2,3,4,6,7,8-HpCDF	47.1		J	13C-1,2,3,4,7,8	8,9-HpCDF	97.7	70 - 130	
1,2,3,4,7,8,9-HpCDF	5.24		J	AS 13C-1,2,3,7,8,9	9-HxCDF	96.9	40 - 135	
OCDF	3.89		J					
Totals	,			Toxic Equivalent (	Quotient (TEQ) D	ata e		
Total TCDD	1320	**********		TEQ (Min-Max):	511 - 511			· · · · · · · · · · · · · · · · · · ·
Total PeCDD	439			,			•	
Total HxCDD	230	240		a. Sample specific estima	ted detection limit.			
Total HpCDD	59.1	•		b. Estimated maximum p			•	
Total TCDF	40000			c. Method detection limit	•			
Total PeCDF	8010			d. Lower control limit - u	pper control limit.			
Total HxCDF	1020			e. TEQ based on (1989) I	nternational Toxic Equi	ivalent Fact	ors (ITEF).	
Total HpCDF	71.7				·		·	

Approved By:



Sample ID: M23-	-PF-C	C1-R1	<del> , , , , , , , , , , , , , , , , , ,</del>		e de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de l		i Ayara	are d	1000	Method 0	023A-8290A
Project: Norli	OM, Ir ite Corj			Sample Data Matrix: Sample Size:	MM5 l Sample	Lab QC I	oratory Data Sample: Batch No.: Analyzed DB-5:	32881-002 3395 1-Nov-10	Date Re Date Ex Dates A		22-Oct-10 27-Oct-10 8-Nov-10
Analyte (	Conc.	(pg/Sample)	DL a	<b>EMPC</b> ^b	Qualifiers		Labeled Standa	rd	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND		1.21			<u>IS</u>	13C-2,3,7,8-TCD	D	107	40 - 135	
1,2,3,7,8-PeCDD	ND		5.60				13C-1,2,3,7,8-PeC	CDD	109	40 - 135	
1,2,3,4,7,8-HxCDD	ND		6.05				13C-1,2,3,6,7,8-H	xCDD	99.8	40 - 135	
1,2,3,6,7,8-HxCDD	ND		5.64				13C-1,2,3,4,6,7,8	HpCDD	117	40 - 135	
1,2,3,7,8,9-HxCDD	ND		5.50				13C-OCDD		99.1	40 - 135	
1,2,3,4,6,7,8-HpCDD	15.1				J		13C-2,3,7,8-TCD	F	104	40 - 135	
OCDD	22.9	•			J		13C-1,2,3,7,8-PeC	CDF	97.5	40 - 135	
2,3,7,8-TCDF	13.2			•			13C-1,2,3,6,7,8-H	xCDF	99.1	40 - 135	
1,2,3,7,8-PeCDF	10.4				J		13C-1,2,3,4,6,7,8-	HpCDF	91.5	40 - 135	
2,3,4,7,8-PeCDF	22.3				J		13C-OCDF		91.3	40 - 135	
1,2,3,4,7,8-HxCDF	10.6	•			J	<u>PS</u>	37Cl-2,3,7,8-TCD	D	NA	70 - 130	
1,2,3,6,7,8-HxCDF	11.4				J	ļ	13C-2,3,4,7,8-Pe0	CDF	NA	70 - 130	
2,3,4,6,7,8-HxCDF	14.7	•			J		13C-1,2,3,4,7,8-H	xCDD	NA	70 - 130	
1,2,3,7,8,9-HxCDF	ND		4.43				13C-1,2,3,4,7,8-H	xCDF	NA	70 - 130	
1,2,3,4,6,7,8-HpCDF	22.3				J .		13C-1,2,3,4,7,8,9	HpCDF	NA	70 - 130	
1,2,3,4,7,8,9-HpCDF	ND		4.75			<u>AS</u>	13C-1,2,3,7,8,9-H	xCDF	105	40 - 135	
OCDF	4.74				J						
Totals			•			Тох	ic Equivalent Que	tient (TEQ) Da	ata e		
Total TCDD	10.2					TE	Q (Min-Max): 17	.1 - 23.3			
Total PeCDD	4.61			10.3				*			
Total HxCDD	18.1					a. Sa	mple specific estimated	detection limit.			
Total HpCDD	31.0					b. Es	timated maximum possi	ble concentration.			
Total TCDF	284			286		c. M	ethod detection limit.				
Total PeCDF	178					d, Lo	ower control limit - uppe	r control limit.			
Total HxCDF	79.5			82.5		e. TE	EQ based on (1989) Inter	national Toxic Equi	valent Facto	ors (ITEF).	
Total HpCDF	22.3					1					

Approved By:



Sample ID: M23	3-XAD-C1-R2					\$ 1 × 5+		Method 0	023A-8290A
Project: Nor	COM, Inc. lite Corp. Oct-10		Sample Data Matrix: Sample Size:	MM5 I Sample	Laboratory Data  Lab Sample:  QC Batch No.:  Date Analyzed DB-5:	32881-003 3395 2-Nov-10	Date Re Date Ex Dates A		22-Oct-10 27-Oct-10 3-Nov-10
Analyte	Conc. (pg/Sample)	DL a	<b>EMPC</b> ^b	Qualifiers	Labeled Standa	ard	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	36.3				<u>IS</u> 13C-2,3,7,8-TCI	DD .	120	40 - 135	
1,2,3,7,8-PeCDD	19.4			J	13C-1,2,3,7,8-Pe	CDD	134	40 - 135	
1,2,3,4,7,8-HxCDD	3.89			J	13C-1,2,3,6,7,8-l	HxCDD	. 117	40 - 135	
1,2,3,6,7,8-HxCDD	7.09			J	13C-1,2,3,4,6,7,8	3-HpCDD	122	40 - 135	
1,2,3,7,8,9-HxCDD	3.29			J	13C-OCDD		109	40 - 135	
1,2,3,4,6,7,8-HpCDD	9.64			J	13C-2,3,7,8-TCI	)F	115	40 - 135	
OCDD	9.38			J	13C-1,2,3,7,8-Pe	CDF	113	40 - 135	
2,3,7,8-TCDF	622				13C-1,2,3,6,7,8-l	HxCDF	105	40 - 135	
1,2,3,7,8-PeCDF	208				13C-1,2,3,4,6,7,8	3-HpCDF	92.3	40 - 135	
2,3,4,7,8-PeCDF	385				13C-OCDF		98.1	40 - 135	
1,2,3,4,7,8-HxCDF	74.1				PS 37Cl-2,3,7,8-TC	DD -	101	70 - 130	
1,2,3,6,7,8-HxCDF	70.7				13C-2,3,4,7,8-Pe	CDF	98.2	70 - 130	
2,3,4,6,7,8-HxCDF	52.8				13C-1,2,3,4,7,8-1	HxCDD	94.7	70 - 130	
1,2,3,7,8,9-HxCDF	16.0			J	13C-1,2,3,4,7,8-1	HxCDF	95.0	70 - 130	
1,2,3,4,6,7,8-HpCDF	32.4			J	13C-1,2,3,4,7,8,9	-HpCDF	102	70 - 130	
1,2,3,4,7,8,9-HpCDF	ND		3.34		AS 13C-1,2,3,7,8,9-1	HxCDF	104	40 - 135	
OCDF	ND	5.07							
Totals					Toxic Equivalent Qu	otient (TEQ) D	ata e		
Total TCDD	998		1000		TEQ (Min-Max): 3	34 - 334			
Total PeCDD	273								
Total HxCDD	122		125		a. Sample specific estimated	I detection limit.			
Total HpCDD	24.3				b. Estimated maximum poss	sible concentration.			
Total TCDF	26800				c, Method detection limit.				
Total PeCDF	5030				d. Lower control limit - upp	er control limit.			
Total HxCDF	673				e. TEQ based on (1989) Into	ernational Toxic Equi	ivalent Fact	ors (ITEF).	
Total HpCDF	45.4		48.7						

Approved By:



Sample ID: M23	-PF-C1-R2	:				·			Method 0	023A-8290A
Project: Norl:	COM, Inc. ite Corp. oct-10		Sample Data Matrix: Sample Size:	MM5 1 Sample	Lab QC i	Dratory Data Sample: Betch No Analyzed DB-5:	32881-004 3395 1-Nov-10		eceived: stracted: nalyzed DB-225;	22-Oct-10 27-Oct-10 8-Nov-10
Analyte	Conc. (pg/Sample)	DL a	EMPC ^b	Qualifiers		Labeled Standa	rd	%R	LCL-UCLd	Qualifiers
2,3,7,8-TCDD	ND	3.27			<u>IS</u>	13C-2,3,7,8-TCD	)	120	40 - 135	
1,2,3,7,8-PeCDD	ND	5.63				13C-1,2,3,7,8-PeC	CDD	122	40 - 135	
1,2,3,4,7,8-HxCDD	ND	5.36				13C-1,2,3,6,7,8-H	xCDD	109	40 - 135	
1,2,3,6,7,8-HxCDD	ND	4.99				13C-1,2,3,4,6,7,8-	HpCDD	130	40 - 135	
1,2,3,7,8,9-HxCDD	ND	4.87				13C-OCDD		113	40 - 135	
1,2,3,4,6,7,8-HpCDD	19.0			J		13C-2,3,7,8-TCD	7	116	40 - 135	
OCDD	32.3			J		13C-1,2,3,7,8-PeC	DF	110	40 - 135	
2,3,7,8-TCDF	16.8					13C-1,2,3,6,7,8-H	xCDF	112	40 - 135	
1,2,3,7,8-PeCDF	16.7			J		13C-1,2,3,4,6,7,8-	HpCDF	107	40 - 135	
2,3,4,7,8-PeCDF	36.0			J		13C-OCDF		106	40 - 135	
1,2,3,4,7,8-HxCDF	19.7			J	<u>PS</u>	37Cl-2,3,7,8-TCD	D	NA	70 - 130	
1,2,3,6,7,8-HxCDF	21.6			J	}	13C-2,3,4,7,8-PeC	CDF	NA	70 - 130	
2,3,4,6,7,8-HxCDF	27.3			J		13C-1,2,3,4,7,8-H	xCDD	NA	70 - 130	
1,2,3,7,8,9-HxCDF	7.30			J		13C-1,2,3,4,7,8-H	xCDF	NA	70 - 130	
1,2,3,4,6,7,8-HpCDF	44.9			J		13C-1,2,3,4,7,8,9-	HpCDF	NA	70 - 130	
1,2,3,4,7,8,9-HpCDF	ND	8.29			<u>AS</u>	13C-1,2,3,7,8,9-H	xCDF	113	40 - 135	
OCDF	14.5			J						
Totals					Тох	cic Equivalent Quo	tient (TEQ) Da	ta ^e		
Total TCDD	9.74		•		TE	Q (Min-Max): 28	.8 - 36.5			
Total PeCDD	6.80		13.3						,	
Total HxCDD	33.9				a. Sa	mple specific estimated	detection limit.			
Total HpCDD	37.8				b. Es	timated maximum possi	ole concentration.			
Total TCDF	371		377		e. M	ethod detection limit.				
Total PeCDF	276				d. Lo	wer control limit - uppe	r control limit.			
Total HxCDF	181				e. TE	EQ based on (1989) Inter	national Toxic Equiv	alent Fact	ors (ITEF).	
Total HpCDF	64.8									

Approved By:



Sample ID: M23-	-XAD-C1-R3		· · · · · · · · · · · · · · · · · · ·						Method 0	023A-8290A
Project: Norli	OM, Inc. ite Corp.		Sample Data Matrix: Sample Size:	MM5 1 Sample	Lab	oratory Data Sample: Batch No.:	32881-005 3395	Date Re Date Ex		22-Oct-10 27-Oct-10
Date Collected: 21-O Time Collected: NA	et-10		-	- · · · ·	Date	Analyzed DB-5:	2-Nov-10	Date An	alyzed DB-225:	NA
Analyte	Conc. (pg/Sample) D	DL a	EMPC ^b	Qualifiers		Labeled Standa	rd	%R	LCL-UCLd	Qualifiers
2,3,7,8-TCDD	37.4		-		<u>IS</u>	13C-2,3,7,8-TCD	D ·	85.6	40 - 135	
1,2,3,7,8-PeCDD	18.1			J		13C-1,2,3,7,8-Pe0	CDD	97.8	40 - 135	
1,2,3,4,7,8-HxCDD	ND 6	5.27				13C-1,2,3,6,7,8-H	IxCDD	87.7	40 - 135	
1,2,3,6,7,8-HxCDD	ND 5	5.85				13C-1,2,3,4,6,7,8	-HpCDD	87.1	40 - 135	
1,2,3,7,8,9-HxCDD	ND 5	5.07		•		13C-OCDD		80.0	40 - 135	
1,2,3,4,6,7,8-HpCDD	8.01			J		13C-2,3,7,8-TCD	F	82.3	40 - 135	
OCDD	11.0			· J		13C-1,2,3,7,8-Pe0	CDF	84.2	40 - 135	
2,3,7,8-TCDF	597					13C-1,2,3,6,7,8-H	IxCDF	77.9	40 - 135	
1,2,3,7,8-PeCDF	193					13C-1,2,3,4,6,7,8	-HpCDF	67.6	40 - 135	
2,3,4,7,8-PeCDF	321					13C-OCDF		72.3	40 - 135	
1,2,3,4,7,8-HxCDF	62.6				<u>PS</u>	37CI-2,3,7,8-TCI	D	121	70 - 130	·
1,2,3,6,7,8-HxCDF	59.1				ŀ	13C-2,3,4,7,8-Pe0	CDF	107	70 - 130	
2,3,4,6,7,8-HxCDF	41.9			J	]	13C-1,2,3,4,7,8-H	IxCDD	97.9	70 - 130	
1,2,3,7,8,9-HxCDF	14.4			J	<del> </del> 	13C-1,2,3,4,7,8-H	[xCDF	99.7	70 - 130	
1,2,3,4,6,7,8-HpCDF	28.8			J		13C-1,2,3,4,7,8,9	-HpCDF	99.7	70 - 130	
1,2,3,4,7,8,9-HpCDF	ND 8	8.10			<u>AS</u>	13C-1,2,3,7,8,9-H	[xCDF	102	40 - 135	
OCDF	ND 4	4.37								
Totals					Tox	ric Equivalent Que	otient (TEQ) Da	ta ^e		
Total TCDD	881				TE	Q (Min-Max): 29	4 - 296			
Total PeCDD	226				1	-				
Total HxCDD	58.7				a. Sa	mple specific estimated	detection limit.			
Total HpCDD	18.9				b. Es	timated maximum possi	ble concentration.		•	
Total TCDF	25400				c. M	ethod detection limit.				
Total PeCDF	4530				d. Lo	ower control limit - uppe	r control limit.			
Total HxCDF	556		•		e. TE	EQ based on (1989) Inter	national Toxic Equiv	alent Facto	ors (ITEF).	
Total HpCDF	41.9	•					·			

Approved By:



Sample ID: M23-	PF-C1-R3		· .						Method 0	023A-8290A
Client Data			Sample Data		Labo	oratory Data				
	OM, Inc.		Matrix:	MM5	Lab S	Sample:	32881-006	Date Re	ceived:	22-Oct-10
	ite Corp.		Sample Size:	1 Sample	QC I	Batch No.:	3395	Date Ex	tracted:	27-Oct-10
Date Collected: 21-O Time Collected: NA	ct-10			1	Date	Analyzed DB-5:	1-Nov-10	Dates A	nalyzed DB-225;	8-Nov-10
Analyte	Conc. (pg/Sample)	DL a	EMPC ^b	Qualifiers		Labeled Standa	rd	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	1.90		•	<u>IS</u>	13C-2,3,7,8-TCD	D	99.3	40 - 135	
1,2,3,7,8-PeCDD	ND	4.29				13C-1,2,3,7,8-PeC	CDD ,	104	40 - 135	
1,2,3,4,7,8-HxCDD	ND	6.14				13C-1,2,3,6,7,8-H	xCDD	92.2	40 - 135	
1,2,3,6,7,8-HxCDD	ND	5.72				13C-1,2,3,4,6,7,8-	HpCDD	106	40 - 135	
1,2,3,7,8,9-HxCDD	ND	5.58				13C-OCDD		92.6	40 - 135	
1,2,3,4,6,7,8-HpCDD	11.2			J		13C-2,3,7,8-TCD	F	99.2	40 - 135	
OCDD	17.3		•	J		13C-1,2,3,7,8-PeC	CDF	95.8	40 - 135	
2,3,7,8-TCDF	14.1					13C-1,2,3,6,7,8-H	xCDF	89.8	40 - 135	
1,2,3,7,8-PeCDF	11.4			J		13C-1,2,3,4,6,7,8-	HpCDF	87.7	40 - 135	
2,3,4,7,8-PeCDF	25.8			J		13C-OCDF		86.6	40 - 135	
1,2,3,4,7,8-HxCDF	12.0			J	<u>PS</u>	37C1-2,3,7,8-TCD	D	NA	70 - 130	
1,2,3,6,7,8-HxCDF	12.6			J		13C-2,3,4,7,8-PeC	DF	NA	70 - 130	
2,3,4,6,7,8-HxCDF	16.3			J		13C-1,2,3,4,7,8-H	xCDD	NA	70 - 130	
1,2,3,7,8,9-HxCDF	ND	6.12				13C-1,2,3,4,7,8-H	xCDF	NA	70 - 130	
1,2,3,4,6,7,8-HpCDF	22.9			J		13C-1,2,3,4,7,8,9-	HpCDF	NA	70 - 130	
1,2,3,4,7,8,9-HpCDF	3.64			J	<u>AS</u>	13C-1,2,3,7,8,9-H	xCDF	91.3	40 - 135	
OCDF	9.26			J						
Totals					Tox	ic Equivalent Quo	tient (TEQ) Da	ta e		
Total TCDD	2.95				TEC	Q (Min-Max): 19	.4 - 25.8			
Total PeCDD	5.29		9.04							
Total HxCDD	12.0				a. Sa	mple specific estimated	detection limit.			
Total HpCDD	22.1				b. Es	timated maximum possi	ble concentration.			
Total TCDF	311		316		c. Mo	ethod detection limit.				
Total PeCDF	204 -				d. Lo	wer control limit - uppe	r control limit.			
Total HxCDF	94.3		96.2		e. TE	Q based on (1989) Inter	national Toxic Equiv	alent Facto	ors (ITEF).	
Total HpCDF	32.7						•			

Approved By:



Sample ID: M23-	-XAD-C2-R1	•		ti singin ta	)			Method 0	023A-8290A
Client Data			Sample Data		Laboratory Data		·		
	OM, Inc.		Matrix:	MM5	Lab Sample:	32881-007	Date Re	ceived:	22-Oct-10
	ite Corp. ct-10		Sample Size:	1 Sample	QC Batch No.:	3395	Date Ex	tracted;	27-Oct-10
Time Collected: NA	Ct-10				Date Analyzed DB-5:	2-Nov-10	Dates A	nalyzed DB-225:	9-Nov-10
Analyte (	Conc. (pg/Sample)	DL a	EMPC ^b	Qualifiers	Labeled Standar	rd	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	20.8			,	<u>IS</u> 13C-2,3,7,8-TCD	D .	111	40 - 135	
1,2,3,7,8-PeCDD	14.1			J	13C-1,2,3,7,8-PeC	DD	128	40 - 135	
1,2,3,4,7,8-HxCDD	2.96			$\mathbf{J}$	13C-1,2,3,6,7,8-H	xCDD	111	40 - 135	
1,2,3,6,7,8-HxCDD	5.90			J	13C-1,2,3,4,6,7,8-	HpCDD	115	40 - 135	
1,2,3,7,8,9-HxCDD	ND	5.98			13C-OCDD		104	40 - 135	
1,2,3,4,6,7,8-HpCDD	12.4			, J	13C-2,3,7,8-TCD	7	106	40 - 135	
OCDD	11.7			${f J}^{\cdot,\cdot}$	13C-1,2,3,7,8-PeC	CDF	108	40 - 135	
2,3,7,8-TCDF	391				13C-1,2,3,6,7,8 <b>-</b> H	xCDF	101	40 - 135	
1,2,3,7,8-PeCDF	158				13C-1,2,3,4,6,7,8-	HpCDF	87.7	40 - 135	
2,3,4,7,8-PeCDF	277				13C-OCDF		93.0	40 - 135	
1,2,3,4,7,8-HxCDF	57.7				<u>PS</u> 37C1-2,3,7,8-TCD	D	98.1	70 - 130	
1,2,3,6,7,8-HxCDF	58.4				13C-2,3,4,7,8-PeC	CDF	95.0	70 - 130	
2,3,4,6,7,8-HxCDF	40.6			J :	13C-1,2,3,4,7,8-H	xCDD	91.2	70 - 130	
1,2,3,7,8,9-HxCDF	14.2			J	13C-1,2,3,4,7,8-H	xCDF	91.8	70 - 130	
1,2,3,4,6,7,8-HpCDF	32.5			J	13C-1,2,3,4,7,8,9-	HpCDF	101	70 - 130	
1,2,3,4,7,8,9-HpCDF	3.74			J	<b>AS</b> 13C-1,2,3,7,8,9-H	xCDF	97.0	40 - 135	
OCDF	ND		4.29						
Totals	•	·			Toxic Equivalent Quo	tient (TEQ) Da	ıta e		
Total TCDD	543		546		TEQ (Min-Max): 23	1 - 232			
Total PeCDD	188								
Total HxCDD	90.1	*			a. Sample specific estimated of	detection limit.			
Total HpCDD	26.2				b. Estimated maximum possil	ole concentration.			
Total TCDF	17200				c. Method detection limit.				
Total PeCDF	3840				d. Lower control limit - upper	control limit.			
Total HxCDF	536				e. TEQ based on (1989) Inter	national Toxic Equiv	alent Facto	ors (ITEF).	
Total HpCDF	51.1				<i>2</i>				

Approved By:



Sample ID: M23-	-PF-C	2-R1				.*				Method 0	023A-8290A
	OM, It ite Corp oct-10			Sample Data Matrix: Sample Size:	MM5 1 Sample	Lab QC I	oratory Data Sample: Batch No.: Analyzed DB-5:	32881-008 3395 1-Nov-10	Date Re Date Ex Date An		22-Oct-10 27-Oct-10 NA
Analyte	Conc.	(pg/Sample)	DL a	EMPC ^b	Qualifiers		Labeled Standa	rd	%R	LCL-UCLd	Qualifiers
2,3,7,8-TCDD	ND		2.55		. '	<u>IS</u>	13C-2,3,7,8-TCD	D	109	40 - 135	
1,2,3,7,8-PeCDD	ND		5.33				13C-1,2,3,7,8-PeC	CDD	118	40 - 135	
1,2,3,4,7,8-HxCDD	ND		5.49				13C-1,2,3,6,7,8-H	xCDD	103	40 - 135	
1,2,3,6,7,8-HxCDD	6.78				J		13C-1,2,3,4,6,7,8-	HpCDD	114	40 - 135	
1,2,3,7,8,9-HxCDD	ND		6.36		•		13C-OCDD		100	40 - 135	the state
1,2,3,4,6,7,8-HpCDD	55.0						13C-2,3,7,8-TCD	F	106	40 - 135	
OCDD	113						13C-1,2,3,7,8-PeC	CDF	107	40 - 135	
2,3,7,8-TCDF	5.04				J		13C-1,2,3,6,7,8-H	xCDF	99.0	40 - 135	
1,2,3,7,8-PeCDF	4.70				J	ļ	13C-1,2,3,4,6,7,8-	HpCDF	93.7	40 - 135	
2,3,4,7,8-PeCDF	12.0	·			J		13C-OCDF		92.1	40 - 135	
1,2,3,4,7,8-HxCDF	7.09				J	<u>PS</u>	37Cl-2,3,7,8-TCD	D ,	NA	70 - 130	
1,2,3,6,7,8-HxCDF	7.78				J		13C-2,3,4,7,8-PeC	CDF	NA	70 - 130	
2,3,4,6,7,8-HxCDF	10.9				J		13C-1,2,3,4,7,8-H	xCDD	NA	70 - 130	
1,2,3,7,8,9-HxCDF	ND		2.18				13C-1,2,3,4,7,8-H	xCDF	NA	70 - 130	
1,2,3,4,6,7,8-HpCDF	21.8				J		13C-1,2,3,4,7,8,9-	HpCDF	NA	70 - 130	
1,2,3,4,7,8,9-HpCDF	3.61				J	<u>AS</u>	13C-1,2,3,7,8,9-H	xCDF	99.7	40 - 135	
OCDF	13.7				J ,						
Totals			,			Тох	tic Equivalent Quo	otient (TEQ) D	ata ^e		
Total TCDD	13.8					TE	Q (Min-Max): 10	.9 - 17.5			
Total PeCDD	49.3			51.9			•			· ·	
Total HxCDD	119					a. Sa	mple specific estimated	detection limit.			
Total HpCDD	104					b. Es	timated maximum possi	ble concentration.			
Total TCDF	127			131		c. M	ethod detection limit.				
Total PeCDF	93.9					d. Lo	ower control limit - uppe	r control limit.			
Total HxCDF	55.9			58.2		1	EQ based on (1989) Inter		valent Fact	ors (ITEF).	
Total HpCDF	37.9							•			

Approved By:



Sample ID: M23-	-XAD-C2-R2				· · · · ·			v.	Method 0	023A-8290A
	OM, Inc. te Corp. ct-10		Sample Data Matrix: Sample Size:	MM5 1 Sample	Lab QC I	Dratory Data Sample: Batch No.: Analyzed DB-5:	32881-009 3395 2-Nov-10	Date Re Date Ex Dates Ar	•	22-Oct-10 27-Oct-10 9-Nov-10
Analyte	Conc. (pg/Sample	e) DL a	<b>EMPC</b> ^b	Qualifiers		Labeled Standa	rd	%R	LCL-UCLd	Qualifiers
2,3,7,8-TCDD	16.8				<u>IS</u>	13C-2,3,7,8-TCD	D	96.2	40 - 135	
1,2,3,7,8-PeCDD	10.8			J		13C-1,2,3,7,8-Pe	CDD	108	40 - 135	
1,2,3,4,7,8-HxCDD	ND.	3.81		*.		13C-1,2,3,6,7,8-F	IxCDD	94.0	40 - 135	•
1,2,3,6,7,8-HxCDD	5.00			J		13C-1,2,3,4,6,7,8	-HpCDD	98.7	40 - 135	
1,2,3,7,8,9-HxCDD	ND	4.56				13C-OCDD		91.4	40 - 135	
1,2,3,4,6,7,8-HpCDD	10.5			J		13C-2,3,7,8-TCD	F	92.0	40 - 135	
OCDD	9.69			J		13C-1,2,3,7,8-Pe	CDF	92.1	40 - 135	
2,3,7,8-TCDF	291					13C-1,2,3,6,7,8-H	łxCDF	87.7	40 - 135	
1,2,3,7,8-PeCDF	122					13C-1,2,3,4,6,7,8	-HpCDF	74.3	40 - 135	
2,3,4,7,8-PeCDF	217					13C-OCDF	•	79.3	40 - 135	
1,2,3,4,7,8-HxCDF	50.3				<u>PS</u>	37Cl-2,3,7,8-TCI	DD ·	97.5	70 - 130	
1,2,3,6,7,8-HxCDF	46.9			J		13C-2,3,4,7,8-Pe	CDF	95.0	70 - 130	
2,3,4,6,7,8-HxCDF	37.9			J	-	13C-1,2,3,4,7,8-F	IxCDD	92.2	70 - 130	
1,2,3,7,8,9-HxCDF	13.5			J		13C-1,2,3,4,7,8-H	HxCDF	89.2	70 - 130	
1,2,3,4,6,7,8-HpCDF	31.2			J		13C-1,2,3,4,7,8,9	-HpCDF	93.9	70 - 130	
1,2,3,4,7,8,9-HpCDF	3.19			J	<u>AS</u>	13C-1,2,3,7,8,9-F	IxCDF	84.9	40 - 135	
OCDF	ND	6.47			1					
Totals					Tox	tic Equivalent Qu	otient (TEQ) D	ata e		
Total TCDD	409				TE	Q (Min-Max): 18	31 - 182			
Total PeCDD	154		•	•						
Total HxCDD	82.1				a. Sa	mple specific estimated	detection limit.			
Total HpCDD	24.5				b. Es	stimated maximum poss	ible concentration.			
Total TCDF	13000				c. M	ethod detection limit.				
Total PeCDF	2900				d. Lo	ower control limit - uppe	er control limit.			
Total HxCDF	451				e. Ti	EQ based on (1989) Inte	rnational Toxic Equi	valent Facto	ors (ITEF).	
Total HpCDF	48.3					4				

Approved By:



Sample ID: M23	-PF-C	C2-R2				•				Method 0	023A-8290A
Client Data				Sample Data	<u> </u>	Labo	oratory Data	<u> </u>			
1	COM, I			Matrix:	MM5	Lab	Sample:	32881-010	Date Re	ceived:	22-Oct-10
	lite Cor Oct-10	p.		Sample Size:	1 Sample	QÇI	Batch No.:	3395	Date Ext	tracted:	27-Oct-10
Date Collected: 19-C Time Collected: NA	JC1-10				-	Date	Analyzed DB-5:	2-Nov-10	Date An	alyzed DB-225:	NA
Analyte	Conc.	(pg/Sample)	DL a	EMPC ^b	Qualifiers		Labeled Standa	rd	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	•	1.61			<u>IS</u>	13C-2,3,7,8-TCD	D ·	112	40 - 135	
1,2,3,7,8-PeCDD	ND		2.52				13C-1,2,3,7,8-PeC	CDD	118	40 - 135	
1,2,3,4,7,8-HxCDD	ND	* * * * * * * * * * * * * * * * * * *	4.70		* 1 m		13C-1,2,3,6,7,8-H	xCDD	102	40 - 135	
1,2,3,6,7,8-HxCDD	ND		4.38				13C-1,2,3,4,6,7,8-	HpCDD	119	40 - 135	
1,2,3,7,8,9-HxCDD	ND		4.27				13C-OCDD		107	40 - 135	
1,2,3,4,6,7,8-HpCDD	18.2				J	]	13C-2,3,7,8-TCD	F	108	40 - 135	
OCDD	49.7				J		13C-1,2,3,7,8-Pe0	CDF	102	40 - 135	•
2,3,7,8-TCDF	6.95				J		13C-1,2,3,6,7,8-H	xCDF	96.5	40 - 135	
1,2,3,7,8-PeCDF	5.63				J		13C-1,2,3,4,6,7,8-	HpCDF	91.8	40 - 135	
2,3,4,7,8-PeCDF	13.4				J		13C-OCDF		96.6	40 - 135	
1,2,3,4,7,8-HxCDF	8.63				J	<u>PS</u>	37C1-2,3,7,8-TCD	D	NA	70 - 130	
1,2,3,6,7,8-HxCDF	9.24				J		13C-2,3,4,7,8-PeC	CDF	NA	70 - 130	
2,3,4,6,7,8-HxCDF	13.5				J		13C-1,2,3,4,7,8-H	xCDD	NA	70 - 130	
1,2,3,7,8,9-HxCDF	4.48				J		13C-1,2,3,4,7,8-H	xCDF	NA	70 - 130	
1,2,3,4,6,7,8-HpCDF	27.5				J		13C-1,2,3,4,7,8,9-	HpCDF	NA	70 - 130	
1,2,3,4,7,8,9-HpCDF	3.85				J	<u>AS</u>	13C-1,2,3,7,8,9 <b>-</b> H	xCDF	98.0	40 - 135	
OCDF	11.7				J						
Totals						Тох	cic Equivalent Que	otient (TEQ) D	ata ^e		
Total TCDD	6.94					TE	Q (Min-Max): 11	.8 - 16.0	<u> </u>		
Total PeCDD	3.04			13.3						•	
Total HxCDD	25.9			32.2		a. Sa	mple specific estimated	detection limit.			
Total HpCDD	36.3				•	b. Es	timated maximum possi	ble concentration.			
Total TCDF	159					c M	ethod detection limit.				
Total PeCDF	113					d. Lo	ower control limit - uppe	r control limit.			
Total HxCDF	78.0					e. TI	EQ based on (1989) Inter	national Toxic Equ	iivalent Facto	ors (ITEF).	
Total HpCDF	42.9				<u></u> .						

Approved By:



Sample ID: M2	3-XAD-C2-R3								Method 0	023A-8290A
Client Data		·· · · · · · · · · · · · · · · · · · ·	Sample Data		Labo	ratory Data				
	ECOM, Inc.		Matrix:	MM5	Lab	Sample:	32881-011	Date Re	eceived:	22-Oct-10
	orlite Corp. -Oct-10		Sample Šiže:	l Sample	QC E	Batch No.:	3395	Date Ex	tracted:	27-Oct-10
Time Collected: NA					Date	Analyzed DB-5:	2-Nov-10	Dates A	nalyzed DB-225:	9-Nov-10
Analyte	Conc. (pg/Sample)	DL a	EMPC ^b	Qualifiers		Labeled Standa	rd	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	14.9				<u>IS</u>	13C-2,3,7,8-TCD	D	112	40 - 135	
1,2,3,7,8-PeCDD	8.72			J		13C-1,2,3,7,8-PeC	CDD	124	40 - 135	
1,2,3,4,7,8-HxCDD	2.35			· J ·		13C-1,2,3,6,7,8-H		110	40 - 135	
1,2,3,6,7,8-HxCDD	4.23			J		13C-1,2,3,4,6,7,8-	HpCDD	114	40 - 135	
1,2,3,7,8,9-HxCDD	ND	3.41				13C-OCDD		106	40 - 135	
1,2,3,4,6,7,8-HpCDI	9.23			J		13C-2,3,7,8-TCD	F	109	40 - 135	
OCDD	ND		7.91			13C-1,2,3,7,8-PeC	CDF	109	40 - 135	• •
2,3,7,8-TCDF	248					13C-1,2,3,6,7,8-H	xCDF	96.8	40 - 135	
1,2,3,7,8-PeCDF	97.3					13C-1,2,3,4,6,7,8-	HpCDF	85.9	40 - 135	
2,3,4,7,8-PeCDF	176					13C-OCDF		92.0	40 - 135	
1,2,3,4,7,8-HxCDF	39.9			J	PS	37C1-2,3,7,8-TCD	D	97.4	70 - 130	
1,2,3,6,7,8-HxCDF	38.5			J		13C-2,3,4,7,8-PeC	CDF	91.3	70 - 130	
2,3,4,6,7,8-HxCDF	30.7			J		13C-1,2,3,4,7,8-H	xCDD	87.2	70 - 130	
1,2,3,7,8,9-HxCDF	ND		3.20			13C-1,2,3,4,7,8-H	xCDF	87.9	70 - 130	
1,2,3,4,6,7,8-HpCDF	27.0			J		13C-1,2,3,4,7,8,9-	HpCDF	96.3	70 - 130	
1,2,3,4,7,8,9-HpCDF	F ND	3.79			<u>AS</u>	13C-1,2,3,7,8,9-H	xCDF	97.6	40 - 135	
OCDF	ND	5.17								
Totals					Tox	ic Equivalent Quo	tient (TEQ) D	ata e		
Total TCDD	369				TEC	Q (Min-Max): 14	9 - 150			· ·
Total PeCDD	128								•	
Total HxCDD	71.9	•			a. Sa	mple specific estimated	detection limit.			
Total HpCDD	21.6				b. Es	timated maximum possi	ble concentration.			
Total TCDF	11400				c. Me	ethod detection limit.				
Total PeCDF	2240				d. Lo	wer control limit - upper	r control limit.			
Total HxCDF	351		366		e. TE	Q based on (1989) Inter	national Toxic Equi	ivalent Fact	ors (ITEF).	
Total HpCDF	40.0				<u>L</u>					

Approved By:



Sample ID: M23	-PF-C	22-R3								Method 0	)23A-8290A
Project: Norl	COM, Ir lite Corp Oct-10			Sample Data Matrix: Sample Size:	MM5 i Sample	Lab QC I	oratory Data Sample: Batch No.: Analyzed DB-5:	32881-012 3395 2-Nov-10	Date Red Date Ext		22-Oct-10 27-Oct-10 NA
Analyte	Conc.	(pg/Sample) I	DL ^a	EMPC ^b	Qualifiers		Labeled Standar	rd	%R	LCL-UCLd	Qualifiers
2,3,7,8-TCDD	ND		1.83		A STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STA	<u>IS</u> :	13C-2,3,7,8-TCDI	)	113	40 - 135	
1,2,3,7,8-PeCDD	ND	•	4.04				13C-1,2,3,7,8-PeC	CDD	123	40 - 135	
1,2,3,4,7,8-HxCDD	ND	1	6.26		en en en generale de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya del companya de la companya del companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la c		13C-1,2,3,6,7,8-H	xCDD	101	40 - 135	•
1,2,3,6,7,8-HxCDD	ND	:	5.84				13C-1,2,3,4,6,7,8-	HpCDD	114	40 - 135	
1,2,3,7,8,9-HxCDD	ND	:	5.69		4		13C-OCDD		101	40 - 135	
1,2,3,4,6,7,8-HpCDD	12.7				1		13C-2,3,7,8-TCDI	₹	104	40 - 135	
OCDD	26.5	*			J		13C-1,2,3,7,8-PeC	DF	106	40 - 135	
2,3,7,8-TCDF	6.86				J		13C-1,2,3,6,7,8-H	xCDF	94.2	40 - 135	
1,2,3,7,8-PeCDF	6.10				J		13C-1,2,3,4,6,7,8-	HpCDF	88.8	40 - 135	
2,3,4,7,8-PeCDF	14.2				J		13C-OCDF		92.5	40 - 135	
1,2,3,4,7,8-HxCDF	9.19				J	<u>PS</u>	37Cl-2,3,7,8-TCD	Ð	NA	70 - 130	
1,2,3,6,7,8-HxCDF	10.2				J		13C-2,3,4,7,8-PeC	DF	NA	70 - 130	
2,3,4,6,7,8-HxCDF	14.1				J		13C-1,2,3,4,7,8-H	xCDD	NA	70 - 130	
1,2,3,7,8,9-HxCDF	ND		1.96		-		13C-1,2,3,4,7,8-H	xCDF	NA	70 - 130	
1,2,3,4,6,7,8-HpCDF	27.9				J		13C-1,2,3,4,7,8,9-	HpCDF	NA	70 - 130	
1,2,3,4,7,8,9-HpCDF	3.81				J	<u>AS</u>	13C-1,2,3,7,8,9-H	xCDF	99.8	40 - 135	
OCDF	7.96				J			÷			
Totals						Tox	ic Equivalent Quo	tient (TEQ) Da	ata e		
Total TCDD	4.37					TE	Q (Min-Max): 11	.9 - 17.7			
Total PeCDD	3.60			6.78							
Total HxCDD	21.3					a. Sa	mple specific estimated	detection limit.			
Total HpCDD	12.7			22.6	•	b. Es	timated maximum possi	ole concentration.			
Total TCDF	170			171		c. M	ethod detection limit.				
Total PeCDF	120					d. Lo	wer control limit - upper	control limit.			
Total HxCDF	81.0			82.9		e. TE	Q based on (1989) Inter	national Toxic Equi	valent Facto	ors (ITEF).	
Total HpCDF	43.4										

Approved By:



Sample ID: M23	-XAD/PF-FB				1 2	· · · · · · · · · · · · · · · · · · ·			Method 0	023A-8290A
Project: Norl	COM, Inc. ite Corp. Oct-10		Sample Data Matrix: Sample Šizė:	MM5 ì Sample	Lab QC I	oratory Data Sample: Batch No.: Analyzed DB-5:	32881-013 3395 1-Nov-10	Date Re Date Ex Date An		22-Oct-10 27-Oct-10 NA
Analyte	Conc. (pg/Sample)	DL a	EMPC ^b	Qualifiers		Labeled Standa	rd	%R	LCL-UCL ^d	Qualifiers
2,3,7,8-TCDD	ND	1.34	,		<u>IS</u>	13C-2,3,7,8-TCD	D	101	40 - 135	
1,2,3,7,8-PeCDD	ND	2.49		_		13C-1,2,3,7,8-Pet	CDD	106	40 - 135	
1,2,3,4,7,8-HxCDD	ND	5.18				13C-1,2,3,6,7,8-F	IxCDD	105	40 - 135	
1,2,3,6,7,8-HxCDD	ND	4.82				13C-1,2,3,4,6,7,8	-HpCDD	106	40 - 135	
1,2,3,7,8,9-HxCDD	ND ·	4.70			-	13C-OCDD		93.4	40 - 135	
1,2,3,4,6,7,8-HpCDD	ND	3.82				13C-2,3,7,8-TCD	F	97.1	40 - 135	
OCDD	ND	3.85				13C-1,2,3,7,8-Pe	CDF	93.6	40 - 135	•
2,3,7,8-TCDF	ND	0.697				13C-1,2,3,6,7,8-H	IxCDF	101	40 - 135	
1,2,3,7,8-PeCDF	ND	1.24				13C-1,2,3,4,6,7,8	-HpCDF	89.6	40 - 135	
2,3,4,7,8-PeCDF	ND	1.28				13C-OCDF		87.7	40 - 135	
1,2,3,4,7,8-HxCDF	ND	1.05			<u>PS</u>	37Cl-2,3,7,8-TCI	DD	101	70 - 130	
1,2,3,6,7,8-HxCDF	ND	0.989				13C-2,3,4,7,8-Pe	CDF	95.2	70 - 130	
2,3,4,6,7,8-HxCDF	ND	1.07	•			13C-1,2,3,4,7,8-F	IxCDD	87.0	70 - 130.	
1,2,3,7,8,9-HxCDF	ND	1.26				13C-1,2,3,4,7,8-H	IxCDF	89.4	70 - 130	
1,2,3,4,6,7,8-HpCDF	ND	1.65				13C-1,2,3,4,7,8,9	-HpCDF	91.4	70 - 130	
1,2,3,4,7,8,9-HpCDF	ND	1.98			<u>AS</u>	13C-1,2,3,7,8,9-H	(xCDF	96.0	40 - 135	
OCDF	ND	3.41								
Totals					Tox	cic Equivalent Qu	otient (TEQ) Da	ıta e		
Total TCDD	ND	1.34			TE	Q (Min-Max): 0	- 5.34			
Total PeCDD	ND	2.49		•					•	
Total HxCDD	ND	4.89			a. Sa	ample specific estimated	detection limit.			
Total HpCDD	ND	3.82			b. Es	stimated maximum poss	ble concentration.			
Total TCDF	ND	0.697			c. M	ethod detection limit.				
Total PeCDF	ND	1.26			d. Lo	ower control limit - uppe	er control limit.			
Total HxCDF	ND	1.08			e Ti	EQ based on (1989) Inte	rnational Toxic Equiv	alent Fact	ors (ITEF).	
Total HpCDF	ND	1.80		•			•			

Approved By:



## **APPENDIX**



# **DATA QUALIFIERS & ABBREVIATIONS**

В	This compound was also detected in the method blank.
D	Dilution
E	The amount detected is above the High Calibration Limit.
P	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
Н	Recovery was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Low Calibration Limit.
*	See Cover Letter
Conc.	Concentration
DL ;	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	<b>Estimated Maximum Possible Concentration</b>
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

ND

TEQ

**Not Detected** 

**Toxic Equivalency** 



# **CERTIFICATIONS**

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-2008
State of Arizona	AZ0639
State of Arkansas, DEQ	08-043-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	N/A
State of Connecticut	PH-0182
State of Florida, DEP	E87777
State of Indiana Department of Health	C-CA-02
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA08000
State of Louisiana, DEQ	01977
State of Maine	2008024
State of Michigan	9932
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	NFESC413
State of Nevada	CA004132007A
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-006
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	TN02996
State of Texas	T104704189-08-TX
U.S. Army Corps of Engineers	N/A
State of Utah	CA16400
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

# **AECOM**

# Sample Packing and Traceability List

32881, 9.9°C, Ambient

Site of P		Sample Date: 10/19-2		Project Location:	Cohoes, NY	P.O. #:	10272ACM
	Program: 2010 MACT CPT	Date Shipped: /o	21/10	Laboratory:	Vista Analytical		<b>表面表现是</b> 文本显示。
Project #		Shipper / Doug Roed		Test Conditions:	C1 = Condition 1		
Program		Recovery: Fred Sangue		/.at/	C2 = Condition 2		
	Contact: Doug Roeck	640年1月1日 - 第二条 例。				00/6/00	
Item	Sample ID Code	Sample Matrix	<del></del>	nple Description	Analitical Para	ameters	Special Instructions
1	M23-XAD-C1-R1	XAD RESIN		ap, C1, Run 1	PCDDs / PCDFs	·	
2	M23-PF-C1-R1	FILTER	PM Filter, C1,		PCDDs / PCDFs		
3	M23-XAD-C1-R2	XAD RESIN		ap, C1, Run 2	PCDDs / PCDFs		
4	M23-PF-C1-R2	FILTER_	PM Filter, C1,		PCDDs / PCDFs		
5	M23-XAD-C1-R3	XAD RESIN	XAD Resin Tr	ap, C1, Run 3	PCDDs / PCDFs		
6	M23-PF-C1-R3	FILTER	PM Filter, C1,	Run 3	PCDDs / PCDFs		
7							
. 8	M23-XAD-C2-R1	XAD RESIN	XAD Resin Tr	ap, C2, Run 1	PCDDs / PCDFs		
9	M23-PF-C2-R1	FILTER	PM Filter, C2,	Run 1	PCDDs / PCDFs		
10	M23-XAD-C2-R2	XAD RESIN		ар, C2, Run 2	PCDDs / PCDFs		
11	M23-PF-C2-R2	FILTER	PM Filter, C2,	· · · · · · · · · · · · · · · · · · ·	PCDDs / PCDFs		·
12	M23-XAD-C2-R3	XAD RESIN		ap, C2, Run 3	PCDDs / PCDFs		
13	M23-PF-C2-R3	FILTER	PM Filter, C2,		PCDDs / PCDFs		
14	Mao C C GE TO	7,-1	, , , , , , , , , , , , , , , , , , , ,				
15	M23-XAD-FB	XAD RESIN	XAD Resin Tr	ap, Field Blank	PCDDs / PCDFs		
16	M23-PF-FB	FILTER	PM Filter, Fie		PCDDs / PCDFs		<del></del>
17	14120-11-11-1	TIE/EIX	T WT IIICI, T IC		1 000011 0010		
18		<del></del>	+	<del></del>			
19		<del></del>					
20	-						
			<u> </u>		<u></u>	<del></del>	
Field Not		ate front-half and back-half		•		es)	•
	2. Testin	g for PCDDs/PCDFs perforn	ned during <u>bot</u>	<u>h</u> Condition 1 and Con	dition 2		9
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					_		Page <u>1</u> of <u>1</u>
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Lma	11-14/10/1000 1000	-		]		LI DOIAGO I III	10, 0/1 00/02

Attn: Martha Maier, (916)-933-1640

# **AECOM**

# Sample Packing and Traceability List

32881

	Program: Norlite Corp.		21/10	Project Location:	Cohoes, NY	P.O. #:	10272ACM
	f Program: 2010 MACT CPT	Date Shipped: 10/	121/10	Laboratory:	Vista Analytical		3
Project		Shipper / Doug Roeck		Test Conditions:	C1 = Condition 1		
	m Office: Westford, MA	Recovery: Fred Sangue	doice	5	C2 = Condition 2	4070	40
	m Contact: Doug Roeck	\$40.42 \$150.78.			739 6577	0038/00	
Item	Sample ID Code	Sample Matrix		le Description	Analitical Par	rameters	Special Instructions
21	M23-FHR-C1-R1	Acetone/MeCl/Toluene	<del></del>	Rinse, C1, Run 1	PCDDs / PCDFs		
22	M23-FHR-C1-R2	Acetone/MeCl/Toluene	M23 Front Half	Rinse, C1, Run 2	PCDDs / PCDFs		
23	M23-FHR-C1-R3	Acetone/MeCI/Toluene	M23 Front Half	Rinse, C1, Run 3	PCDDs / PCDFs		
24							
25	M23-BHR-C1-R1	Acetone/MeCl/Toluene	M23 Back Half	Rinse, C1, Run 1	PCDDs / PCDFs		
26	M23-BHR-C1-R2	Acetane/MeCl/Taluene	M23 Back Half	Rinse, C1, Run 2	PCDDs / PCDFs		
27	M23-BHR-C1-R3	Acetone/MeCl/Toluene	M23 Back Half	Rinse, C1, Run 3	PCDDs / PCDFs		
28							
29	M23-FHR-C2-R1	Acetone/MeCl/Toluene	M23 Front Half	Rinse, C2, Run 1	PCDDs / PCDFs		
30	M23-FHR-C2-R2	Acetone/MeCl/Toluene		Rinse, C2, Run 2	PCDDs / PCDFs		
31	M23-FHR-C2-R3	Acetone/MeCl/Toluene	<del> </del>	Rinse, C2, Run 3	PCDDs / PCDFs		
32							
33	M23-BHR-C2-R1	Acatone/MeCl/Toluene	M23 Back Half	Rinse, C2, Run 1	PCDDs / PCDFs		
34	M23-BHR-C2-R2	Acetone/MeCl/Toluene	1	Rinse, C2, Run 2	PCDDs / PCDFs		<del>-</del>
35	M23-BHR-C2-R3	Acetone/MeCl/Toluene	4	Rinse, C2, Run 3	PCDDs / PCDFs		
36	14120-D11111-02-110	r Gotonarii o Gari Gidono	THEO BEOK TION	10,100, 02, 10,10			
37	M23-FHR/BHR-FB	Acetone/MeCl/Toluene	M22 EU / BU B	inse Field Blank	PCDDs / PCDFs		
38	WZ3-FHNBHK-FB	Acetorienviecti i oluerie	WIZS THIT BITE	ilise Fleid Dialik	FCDDS/FCDFS		
							**-
39							
40		<u> </u>			<u> </u>		
Field No	· · · · · · · · · · · · · · · · · · ·	e front-half and back-half a	-		•	les)	
	2. Testing f	for PCDDs/PCDFs perform	ed during both (	Condition 1 and Condi	tion 2		1 1
							Page / of /
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Signatu	re: Time:	Signature:	Time:	Signature:	Time:	1104 Windfield	·
Ras	do Burnell 1055					El Dorado Hills	· ·
11000	COUL DAMANCE DES			1		U	aler, (916)-933-1640



32881 Vista Project #: Date/Time Initials: **Samples Arrival:** Shelf/Rack: Date/Time Initials: Location: Logged In: Shelf/Rack: Hand **Delivered By:** FedEx **UPS** DHL Cal Other Delivered Preservation: None Ice Blue Ice Dry Ice Time: Temp °C Ambient Thermometer ID: IR-1

							YES	NO	NA	
Adequate Sample Volur	1000000		<u> </u>		and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s	10 mg	<u> </u>	_		
	Holding Time Acceptable?									
Shipping Container(s) Intact?										
Shipping Custody Seals			-							
Shipping Documentation	1									
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Sample Container Intac		سسا	-							
Sample Custody Seals	Intact?						1			
Chain of Custody / Sam	ple Docu	ımentation P	resent?				1			
COC Anomaly/Sample	Acceptar	nce Form con	npleted?					1	<u> </u>	
If Chlorinated or Drinkin	g Water	Samples, Ac	ceptable Pre	serv	ation?				1	
	Na ₂ S ₂ O ₃ Preservation Documented? COC Sample Container						None			
Shipping Container		Vista	Client	R	etain	Re	turn	Disp	ose	

Comments:

MA3-FHR-CI-RI date

10/20/2010

1-R3 10/20/10

-C2-RI 10/19/10

1-R2 10/19/10

MA3-FHR/BHR-FB 10/19/10



32881 Vista Project #: Initials: Location: INE Date/Time Samples Arrival: Date/Time Location: Initials: 1106 Logged In: Shelf/Rack:__^ Hand Other FedEx **UPS** DHL Delivered By: Cal Delivered None Blue Ice Dry Ice Preservation: Ice Ambient Temp °C Thermometer ID: IR-1 Time: 0928

					YES	NO	NA
Adequate Sample Volume Rece					1		
Holding Time Acceptable?		1					
Shipping Container(s) Intact?	V		,				
Shipping Custody Seals Intact?			V				
Shipping Documentation Preser	1						
Airbill Trk#		V					
Sample Container Intact?		~					
Sample Custody Seals Intact?					1		
Chain of Custody / Sample Doc	umentation P	resent?			1		
COC Anomaly/Sample Accepta	nce Form cor	mpleted?				<u> </u>	1
If Chlorinated or Drinking Water	Samples, Ad	cceptable Pre	servation?				<u></u>
Na ₂ S ₂ O ₃ Preservation Documer	Sample					None	
Shipping Container	Vista	Client	Retain	Re	turn	Disp	ose
Comments:	<u></u>				<del></del> '		

M23-BHR-CI-RI /0/20/2010 | -R2 /0/20/2010 | -R3 /0/21/2010 (32881) C2-RI | R2 | R3

M23-PHR/BHR-WS INLET-RI 10/21/2010 (32886)



							Analytical	Laboratory	
Vista Project #:	32	881			TAT <u>%</u>	rot.sp	ccif	uid	
	Date/Time		Initials:		Location		·		
Samples Arrival:	10/22/	10 084	8 R	3	Shelf/Ra	-	, –		
	Date/Time	1100	Initials:		Location	1: R	7/		
Logged In:	10/22/1	0 1106	K	3	Shelf/Ra	ck:/	V/A		
Delivered By:	FedEx	UPS	Cal	DHL	1 '	and vered	Oti	ner	
Preservation:	lce	B	Blue Ice	Dr	y ice	T	None		
Temp °C 9.9	<b>)</b>	Time: 09	132		Thermor	neter II	D: IR-	1	
						YES	NO	NA I	
Adequate Sample	Volume Rece	eived?	<u> </u>		earrain le 11 Februarie - En	1	1.0		
Holding Time Acce	· · · · · · · · · · · · · · · · · · ·					V			
Shipping Containe						1			
Shipping Custody	Seals intact?							V	
Shipping Documer	ntation Preser	nt?				1			
Airbill	Trk#	8739	6577	001	6	1			
Sample Container	Intact?					V			
Sample Custody S	eals Intact?				···			\(\begin{align*}	
Chain of Custody /	Sample Doc	umentation P	resent?	<del></del>		1	<u> </u>		
COC Anomaly/Sar	nple Accepta	nce Form cor	npleted?			V	<u> </u>		
If Chlorinated or Di	rinking Water	Samples, Ac	ceptable Pr	eservatio		<u> </u>		V	
Na ₂ S ₂ O ₃ Preservat	ion Documer	nted?	coc		Sample Contai <u>ner</u>		None		
Shipping Containe	r	Vista	Client	Reta	n Re	eturn	Disp	oose	
Comments: M 2 3	- XAD-C - C: - WS. - FB	1-R1 -R2 -R3 2-E1 -R3 1-R1(32) (3288)	32881) 8824)	M23-	PF-C1 -C2 -WSI -FB	-R1 R2 R3 -R1 R2 R3) -R2 (3288)	× 01	2881, ITER ( NER L (32	) _AB ABi
	LUI	rucad XI	LA DA Inlan	lin					RB ,

Junused Filter

AHE RO 10/10/10

Appendix & BAI A 22/10

Page 1029 of 1159

Sample Login 3/2007 rmh Page 26 of 27 Norlite, LLC Cohoes, New York



Vista Project #:	3	288	31			T	ΑΤ <u>⁄/</u> /	otsp	ecifi	ed
	Date/Time			Initials:		Loca	ation	: וען	1-5	
Samples Arrival:	10/22/1	0 0	845	1 RX	3			ck: <u>/</u>		
Logged In:	Date/Time 10/25/10 1106			Initials:	3_	Location: R-/ Shelf/Rack: N/A				
Delivered By:	FedEx UPS			Cal	DHI	-		and /ered	Otl	her
Preservation:	Ice		Blu	e Ice	Dı	ry Ice		(	None	<u>}                                    </u>
Temp °C Ami	bient	Time:	09	26		The	rmon	neter II	D: IR-	1
Adequate Sample		ived?						YES	NO	NA
Holding Time Acce	ptable?									1/
Shipping Container	r(s) Intact?				· 			1		
Shipping Custody 8	Seals Intact?							•		~
Shipping Documen	tation Preser	nt?				_		1		
Airbill	Trk#	875	396	577	002	27		\		
Sample Container	Intact?			-	_					V
Sample Custody S	eals Intact?									V
Chain of Custody /	Sample Doci	umentat	ion Pre	sent?		,				1
COC Anomaly/San	nple Acceptai	псе Гоп	m comp	oleted?					1	
If Chlorinated or Dr	rinking Water	Sample	s, Acce	eptable Pre	eservatio	 n?				1
Na ₂ S ₂ O ₃ Preservat				COC		Sam Conta	•	(	None	•

4 unused XADs 4 unused Filters

Vista)

**Shipping Container** 

Comments:

Dispose

Client

Retain

Return



10/22/2010

Vista Project ID: 32881

Mr. Doug Roeck AECOM, Inc. 2 Technology Park Drive Westford, MA 01886 USA

Dear Mr. Roeck,

The samples listed in the sample inventory were received by Vista Analytical Laboratory on 10/22/2010.

Please find attached:

- Terms and Conditions (reverse side of letter)
- Sample Inventory Report
- ◆ Chain-of-Custody
- Additional sample documentation (if applicable).
- Sample Log-In Checklist

Analytical results are scheduled to be reported to you on: 11/12/2010. All sample containers and their contents will be disposed of 90 days subsequent to issuance of a final report.

If you have any questions regarding the status of the work associated with these samples, please contact me at (916) 673-1520.

Sincerely,

Martha M. Maier

Laboratory Director

## **TERMS AND CONDITIONS**

#### **ACCEPTANCE**

1.071 1911 9112 These terms and conditions are incorporated into, and made a part of every agreement for services between Vista Analytical Laboratory, Inc. ("Vista") and its client ("Client"). The Client accepts these terms and conditions by agreeing to purchase services from Vista or by sending samples to Vista.

14626

Allow Light Co.

#### **PAYMENT**

The Client shall pay in full within 30 days after the date that Vista invoices it for services rendered. No payment terms or conditions of purchase orders different from the terms of Vista will become part of any sales agreement, purchase order, or other document unless specifically approved in writing by Vista. Should suit be instituted to collect any debts of the undersigned, the client is responsible to pay all actual costs of collection and attorney's fees and interests on the past due amount at the highest rate legally available.

#### TURNAROUND TIME

Standard turnaround time is 21 days unless a shorter turnaround time is expressly agreed to by Vista. Turnaround time is defined as the number of calendar days between the first business day after Vista receives a sample or is authorized by the Client to perform an analysis on a sample, whichever occurs last, and the date that Vista transmits the final report for that sample to the Client. Rush orders, i.e., those that the Client requests to have analyzed in less than the standard turnaround time, will be subject to the additional charges set forth in the applicable quotation. Delays caused by acts of God, natural disasters. governmental actions, fires, floods and accidents, and other circumstances for which Vista is not responsible, shall not be counted in determining turnaround time.

#### SHIPPING

The Client is responsible for delivering its samples to Vista in good condition and the Client shall bear the risk of any loss of or damage to its samples during shipping. Vista reserves the right to refuse to accept delivery of, to refuse to analyze and/or to return any sample to the Client that is not delivered to Vista in good condition or that poses a health or safety risk. The Client shall pay the cost of returning such samples to it.

#### LIMITATION OF LIABILITY

Vista makes no representations, guarantees or warranties, express or implied, regarding the fitness of its reports for any particular use or purpose and Vista shall not be liable for consequential damages under any circumstance. The client's sole remedy is a refund of the amount that is paid Vista to analyze the sample in question. If Vista loses or damages a sample, after accepting it for analysis, Vista's liability shall not exceed the lessor of \$50 or the amount that the Client expended to obtain the sample.

#### INDEMNITY

The Client agrees to indemnify and defend Vista, and to hold Vista harmless, against any and all claims, actions, lawsuits, arbitration awards, judgements, damages, liabilities, expenses and costs, including attorneys' fees and court costs, arising out of, or related in any way to, the use to Vista's reports by the Client or by any third party who obtains Vista's reports from the Client.

Effective: 2/14/2007



# Section I: Sample Inventory Report

Date Received:

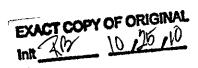
10/22/2010 32881

Project No.: Project Name:

Norlite Corp.

Lab. Sample ID	Client Sample ID	Component ID
001	M23-XAD-C1-R1	BHR
		XAD
002	M23-PF-C1-R1	FHR
		FILTER
003	M23-XAD-C1-R2	BHR
		XAD
004	M23-PF-C1-R2	FHR
		FILTER
005	M23-XAD-C1-R3	BHR
		XAD
006	M23-PF-C1-R3	FHR
	•	FILTER
007	M23-XAD-C2-R1	BHR
		XAD
008	M23-PF-C2-R1	FHR
		FILTER
009	M23-XAD-C2-R2	BHR
		XAD
010	M23-PF-C2-R2	FHR
		FILTER
011	M23-XAD-C2-R3	BHR
		XAD
012	M23-PF-C2-R3	FHR
		FILTER
013	M23-XAD/PF-FB	FHR/BHR
		FILTER
		XAD

Smpinvgnmm5.rpt



# **AECOM**

# Sample Packing and Traceability List

32881, 9.9°C, Ambient

T		Sample Date: 10/19-21		Project Location:	Cohoes, NY	P.O. #:	10272ACM
Type of Program:	2010 MACT CPT	Date Shipped: /o/	21/10	Laboratory:	Vista Analytical	y de callanda.	是被否定的是 <b>对</b> 对的实际。
Project #:	60163411	Shipper / Doug Roeck		Test Conditions:	C1 = Condition 1		
Program Office:	Westford, MA	Recovery: Fred Sangue	AND RESIDENCE OF A STREET OF STREET	4914	C2 = Condition 2		
Program Contact:	Doug Roeck			FedEx Air Bill #:	<u>8739 6577</u>	00/6/00	
	Sample ID Code	Sample Matrix		ple Description	Analitical Par	ameters	Special Instructions
1 M23	-XAD-C1-R1	XAD RESIN	XAD Resin Tra	p, C1, Run 1	PCDDs / PCDFs	•	
2 <b>M2</b> :	3-PF-C1-R1	FILTER	PM Filter, C1, I	Run 1	PCDDs / PCDFs		
3 M23	-XAD-C1-R2	XAD RESIN	XAD Resin Tra	ıp, C1, Run 2	PCDDs / PCDFs		
4 <b>M</b> 2	3-PF-C1-R2	FILTER	PM Filter, C1, I	Run 2	PCDDs / PCDFs		
5 <b>M23</b>	-XAD-C1-R3	XAD RESIN	XAD Resin Tra	ip, C1, Run 3	PCDDs / PCDFs		
6 <b>M2</b>	3-PF-C1-R3	FILTER	PM Filter, C1, I	Run 3	PCDDs / PCDFs		
7							
8 M23	-XAD-C2-R1	XAD RESIN	XAD Resin Tra	p, C2, Run 1	PCDDs / PCDFs		
9 <b>M2</b>	3-PF-C2-R1	FILTER	PM Filter, C2, I	Run 1	PCDDs / PCDFs		
10 <b>M23</b>	-XAD-C2-R2	XAD RESIN	XAD Resin Tra	p, C2, Run 2	PCDDs / PCDFs		
11 M2	3-PF-C2-R2	FILTER	PM Filter, C2, I	Run 2	PCDDs / PCDFs		
12 <b>M23</b>	-XAD-C2-R3	XAD RESIN	XAD Resin Tra	p, C2, Run 3	PCDDs / PCDFs		
13 M2:	3-PF-C2-R3	FILTER	PM Filter, C2, I	Run 3	PCDDs / PCDFs		
14							
15 <b>M</b> 2	23-XAD-FB	XAD RESIN	XAD Resin Tra	ıp, Field Blank	PCDDs / PCDFs	·	
	23-PF-FB	FILTER	PM Filter, Field	l Blank	PCDDs / PCDFs		
17							
18							
19							
20			<del>                                     </del>		-		

2. Testing for PCDDs/PCDFs performed during both Condition 1 and Condition 2

Relinquished By (print):	Date:	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Douglas R. Roeck	10/21/10						
Signature:	/ Time:	Signature:	Time:	Signature:	Time:	Signature:	Time:
Signature: Weeder & Please	rl 16:00						
Received By (print):	Date:	Received By (print):	Date:	Received By (print):	Date:	Analytical Laboratory Destination	<u>ı:</u>
Ronda Burrell	10/22/10					Vista Analytical Laboratories, I	nc.
Signature:	Time:	Signature:	Time:	Signature:	Time:	1104 Windfield Way	
Ronde Burrel	1 1055			ll .		El Dorado Hills, CA 95762	
Kmac Bure	10,00			H		Attn: Martha Maier, (916)-933-	1640

NEICVP1120E01

Appendix CAA A Page 1034 of 1159 Norlite, LLC Cohoes, New York

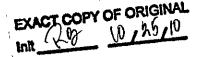
# EXACT COPY OF ORIGINAL. Init RD 10/25/10

# **AECOM**

# Sample Packing and Traceability List

32881

Site of	Program: Norlite Corp.	Sample Date: /0/19~	21/10	Project Location:	Cohoes, NY	P.O. #:	10272ACM
	Program: 2010 MACT CPT	Date Shipped: /0/	21/10	Laboratory:	Vista Analytical		
Project		Shipper / Doug Roeck		Test Conditions:	C1 = Condition 1		
	m Office: Westford, MA	Recovery: Fred Sangue		<u>                                     </u>	C2 = Condition 2	destruction of the	Table Called the Action of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee of the Committee
	m Contact: Doug Roeck					0038/00	
Item	Sample ID Code	Sample Matrix		le Description	Analitical Para	ameters	Special Instructions
21	M23-FHR-C1-R1	Acetone/MeCl/Toluene	<del></del>	Rinse, C1, Run 1	PCDDs / PCDFs		
22	M23-FHR-C1-R2	Acetone/MeCl/Toluene		Rinse, C1, Run 2	PCDDs / PCDFs		
23	M23-FHR-C1-R3	Acetone/MeCl/Toluene	M23 Front Half	Rinse, C1, Run 3	PCDDs / PCDFs		
24							
25	M23-BHR-C1-R1	Acetone/MeCl/Toluene	M23 Back Half	Rinse, C1, Run 1	PCDDs / PCDFs		
26	M23-BHR-C1-R2	Acetone/MeCl/Toluene	M23 Back Half	Rinse, C1, Run 2	PCDDs / PCDFs		
27	M23-BHR-C1-R3	Acetone/MeCl/Toluene	M23 Back Half	Rinse, C1, Run 3	PCDDs / PCDFs		
28							
29	M23-FHR-C2-R1	Acetone/MeCI/Toluene	M23 Front Half	Rinse, C2, Run 1	PCDDs / PCDFs		
30	M23-FHR-C2-R2	Acetone/MeCl/Toluene	M23 Front Half	Rinse, C2, Run 2	PCDDs / PCDFs		
31	M23-FHR-C2-R3	Acetone/MeCl/Toluene	M23 Front Half	Rinse, C2, Run 3	PCDDs / PCDFs		
32							
33	M23-BHR-C2-R1	Acetone/MeCl/Toluene	M23 Back Half	Rinse, C2, Run 1	PCDDs / PCDFs		
34	M23-BHR-C2-R2	Acetone/MeCl/Toluene	M23 Back Half	Rinse, C2, Run 2	PCDDs / PCDFs		
35	M23-BHR-C2-R3	Acetone/MeCl/Toluene		Rinse, C2, Run 3	PCDDs / PCDFs		
36	MIZO DITICOZI ITO		,				
37	M23-FHR/BHR-FB	Acetone/MeCl/Toluene	M23 FH / BH R	inse Field Blank	PCDDs / PCDFs		
38	WIZO-I TROBING D		,				
39			<u> </u>				
40			<del> </del>				
<del></del>			nelveie for DCDI	Da/BCDEs (overat bla	nke and audit compl	ac)	<u>-l</u>
Field No		e front-half and back-half a			A CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR	es)	
	2. Testing	for PCDDs/PCDFs perform	ea auring both	Condition 1 and Cond	ition 2		Page / of /
							Page of
Relinqu	ished By (print): Date:	Relinquished By (print):	Date:	Relinquished By (prin	t): Date:	Received by Lai	o (print): Date:
Dougla	s R. Roeck 10/21/10	1					•
Signatu	re: Time: 16:00	Signature:	Time:	Signature:	Time:	Signature:	Time:
Me	ruder Klierov 16:00						
Receive	re: Time: 16:00  ad By (print): Date:  Aa Burrell 10/22/10  are: Time:  Ada Burrell 1055	Received By (print):	Date:	Received By (print):	Date:	1	oratory Destination:
Kono	da Burrell 10/22/10					Vista Analytica	l Laboratories, Inc.
Signatu	re: / Time:	Signature:	Time:	Signature:	Time:	1104 Windfield	-
RIM	da Burrell 1055					El Dorado Hills	·
1/01	0000					Attn: Martha M	laier, (916)-933-1640





Vista Project #:	32	881			TAT <u>%</u>	ot specified
	Date/Time		initials:	· · ·	Location	"UR-2
Samples Arrival:	10/22/10 0845					
	Date/Time		Initials:		1	·
Logged In:	10/22/10	1106	KB		Location: WR - Shelf/Rack: N/A  Location: R - /  Shelf/Rack: N/A  DHL Hand Delivered	ck: N/A
Delivered By:	FedEx	UPS	Cal	DHL	l l	i ()ther
Preservation:	Ice	Blue	e Ice	:Dr	y Ice	None )
Temp °C Amb	ient .	Time: 092	3/		Thermon	neter ID: IR-1
				a bunari pere ama da h	nacional de production de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la company	

						YES	NO	NA
Adequate Sample Volume Received?								
Holding Time Acceptable?						1		
Shipping Container(s) Intact?			·			1		
Shipping Custody Seals Intact?								1
Shipping Documentation Present	t?							-
Airbill Trk#	8739	6577	00	38		1		
Sample Container Intact?								
Sample Custody Seals Intact?						1		
Chain of Custody / Sample Docu	mentation P	resent?				1		
COC Anomaly/Sample Acceptan	ice Form cor	npleted?		•			1	
If Chlorinated or Drinking Water	Samples, Ac	ceptable Pre	serva	ation?				V
	Na ₂ S ₂ O ₃ Preservation Documented? COC Sample Container						None	
Shipping Container	Vista	Client	R	etain	Re	turn	Disp	ose

Comments:

MA3-FHR-CI-RI	date 10/20/2010
-R2 -R3	10/20/10
-C2-R1 1-R2	10/19/10
M23-FHR/BHR-FB	10/19/10

# EXACT COPY OF ORIGINAL init Pay 10,25,40

## SAMPLE LOG-IN CHECKLIST

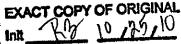


Vista Project #:	3288	1			TAT <u>'91</u>	ot specified	
Samples Arrival:	Date/Time	Initials:		Location: WR-5			
Samples Amvai.	10/22/10			Shelf/Rack: $\mathcal{N}/\mathcal{A}$			
	Date/Time	Initials:		Location: R-/			
Logged in:	10/22/10 1106		RB		Shelf/Rack: N/A		
Delivered By:	FedEx U	PS	Cal	DHL	§ .	ond Other	
Preservation:	ice Blue		e Ice Dr		ry Ice None		
Temp °C Am	blent Time	Thermometer ID: IR-1					

						YES	3	NO	NA
Adequate Sample Volume Recei	ved?					1			
Holding Time Acceptable?						/			
Shipping Container(s) Intact?						~	-		
Shipping Custody Seals Intact?									1
Shipping Documentation Present	!?					1	-		
Airbill Trk# 8	739 6	577 OC	4	7		V			
Sample Container Intact?						V	-		
Sample Custody Seals Intact?			•			1			
Chain of Custody / Sample Docu	mentation P	resent?				1			
COC Anomaly/Sample Acceptar	ce Form con	npleted?							1
If Chlorinated or Drinking Water	Samples, Ac	ceptable Pre	serv	ation?					1
Na ₂ S ₂ O ₃ Preservation Document	Sample					None			
Shipping Container	Vista	Client	F	Retain		Return		Disp	ose
Comments:		/ /							

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M23-PHR/BHR-WS INLET-RI 10/21/2010 (32886)





			, C-114 O11E	-OIXLIO		<b>D</b>	Analytical	ار. Laborator
Vista Project #:	328	81			TAT <u>%</u>	rot sp	ccif	sid
	Date/Time		Initials:		Location	: W/E	2-5	2
Samples Arrival:	10/22/10	0845	1 4	B	Shelf/Ra	ck:/	J/A	
	Date/Time		Initials:		Location	i: R	<del>-</del> /	
Logged In:	10/22/10	1106	K	3	Shelf/Ra	ck: <u>/</u>	U/A	
Delivered By:	FedEx	UPS	Cal	DHL	I	and vered	Oth	ner
Preservation:	Ice	BI	ue Ice	Dr	y Ice	1	None	
Temp °C 9.9	Ti	me: 09	32		Thermor	neter II	): IR-	1
VACANNOS DOS VOLUMESO LAS ENTRADOS (ASSERLA ASSESSADAS ENTRADAS (				rhy (2001 punit martin province):		1/50	1 110	
		-10				YES	NO	NA
Adequate Sample		a <i>r</i>				1		
Holding Time Acce				<u>.                                      </u>		1		
Shipping Containe Shipping Custody	· ·			:				V
Shipping Documer		· · · ·				i/		
Airbill		739 (	5577	001	6	V		
Sample Container			<del>, , , , , , , , , , , , , , , , , , , </del>			V		
Sample Custody S								V
Chain of Custody /	· ·	entation Pr	esent?			1		
COC Anomaly/Sar	nple Acceptance	Form com	pleted?			1		
If Chlorinated or D	rinking Water Sa	moles Acc	centable Pr	eservatio	n?			V
Na ₂ S ₂ O ₃ Preservat	· · · · · · · · · · · · · · · · · · ·		COC		Sample	(	None	<u>.</u>
Shipping Containe	r /	Vista	Client	Reta	Container	eturn	Dist	oose
Commonts:				1				
M23	- XAD-CI- - C2- - K - WSI- - FB	R2 R3 R1 22 R1(328 (3288)	2881) 2881)	M23-	PF-C1 -C2 -WS1 -FB	R2 R3 -R1 R2 R3)	(3:	288  UTER NER (3
	Luni	cad XA	> an also	.1				~

<b>EXACT COPY</b>	OF ORIGINAL
Init RM	10,25,10



									Analytical	Laborator	
Vista Project #:	3	28	81		<u></u> .	_ 1	AT	ot spe	cy	<u>ed</u>	
Samples Arrival:	Date/Time 10/22/10 0845							WP	_		
Samples Arrival.						Shelf/Rack: N/A Location: R-/					
	Date/Time		iint.	Initials:	<i>a</i>	Loc	ation	P	-/	/	
Logged In:	10/25/1	0	1100	KL	5_	Shelf/Rack: /		V/A			
Delivered By: (	FedEx	UF	PS .	Cal	DHL		Ha Deliv		Oth	ner	
Preservation:	Ice		Blu	e Ice	Dr	Ory Ice None			None	<b>)</b>	
Temp °C Aml	pient	Time	: 09:	26	Thermometer ID: IR-1			1			
								YES	NO	NA	
Adequate Sample	Volume Rece	eived?				,					
Holding Time Acce	ptable?									1/	
Shipping Container	r(s) Intact?							V			
Shipping Custody S	Seals Intact?									1	
Shipping Documen								V			
Airbill	Trk#	87	396	577	006	7	-	1			
Sample Container	Intact?									V	

If Chlorinated or Drinking Wa	ter Samples, Ac	ceptable Pre	servation?		
Na₂S₂O₃ Preservation Docum	ented?	coc		imple itainer	None
Shipping Container	(Vista)	Client	Retain	Retur	n Dispose

Comments:

Sample Custody Seals Intact?

Chain of Custody / Sample Documentation Present?

COC Anomaly/Sample Acceptance Form completed?

4 unused XADS 4 unused Filters



October 13, 2010

Mr. Doug Roeck AECOM Air Lab 325 Ayer Road Harvard, MA 01451

Dear Mr. Roeck,

Enclosed are twelve cleaned and pre-spiked XAD cartridges. Each cartridge has been prepared for the analysis of polychlorinated dioxins/furans (PCDDs/PCDFs) by EPA Method 0023A using HRMS. Also enclosed are twelve cleaned 90mm glass fiber filters and twelve cleaned petri dish sets.

If you have any questions regarding the enclosed items, please do not hesitate to contact me at (916) 673-1520 or fbishop@vista-analytical.com.

Sincerely,

Francie Bishop

Scientist

Vista Analytical Laboratory, Inc.

AECOM · Environment

**VOST Analysis for Monochlorobenzene (Air Toxics, Ltd.)** 

## Method 0031 (VOST) - MCB (POHC) Quantities Detected

Cond	1A - Rur	<u>1 1</u>	Cond	1A - Rur	<u>1 2</u>	Cond 1A - Run 3			
VOST Pair	<u>Units</u>	Qty	VOST Pair	<u>Units</u>	Qty	VOST Pair	<u>Units</u>	Qty	
A-TX1 & TX2	μg	0.2200	A-TX1 & TX2	μg	0.2400	A-ŤX1 & TX2	μg	0.2200	
A-ANASORB	μg	0.0050	A-ANASORB	μg	0.0050	A-ANASORB	μg	0.0050	
B-TX1 & TX2	μg	0.2600	B-TX1 & TX2	μg	0.2200	B-TX1 & TX2	μg	0.2400	
B-ANASORB	μg	0,0050	B-ANASORB	μg	0.0050	B-ANASORB	μg	0.0050	
C-TX1 & TX2	μg	HOLD	C-TX1 & TX2	μg	HOLD	C-TX1 & TX2	μg	HOLD	
C-ANASORB	μg	HOLD	C-ANASORB	μg	HOLD	C-ANASORB	μg	HOLD	
D-TX1 & TX2	μg	0.2700	D-TX1 & TX2	μg	0.2300	D-TX1 & TX2	μg	0.2600	
D-ANASORB	μg	0,0050	D-ANASORB	μg	0.0050	D-ANASORB	μg	0.0050	
Condensate	μg	0.0400	Condensate	μg	0.0400	Condensate	μg	0,0400	
TOTAL =	μg	0.8050	TOTAL =	μg	0.7450	TOTAL =	μg	0.7750	

POHC:

MCB

≥ ND value



1/25/2011 Mr. Doug Roeck AECOM Environment 2 Technology Drive

Westford MA 01886-3140

Project Name: Norlite Corp.

Project #: 60163411 Workorder #: 1101209A

Dear Mr. Doug Roeck

The following report includes the data for the above referenced project for sample(s) received on 1/14/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified VOST 5041A/8260B are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 .FAX (916) 985-1020 Hours 6:30 A.M to 5:30 PST

Page 1 of 29



#### WORK ORDER #: 1101209A

Work Order Summary

CLIENT: Mr. Doug Roeck

AECOM Environment 2 Technology Drive

Westford, MA 01886-3140

BILL TO: Accounts Payable

AECOM Environment 2 Technology Drive

Westford, MA 01886-3140

**PHONE:** 978-589-3000 **P.O.** # 25540ACM

FAX: 978-589-3100 PROJECT # 60163411 Norlite Corp.

DATE RECEIVED: 01/14/2011 CONTACT: Ausha Scott
DATE COMPLETED: 01/18/2011

FRACTION# **TEST NAME** VOST-TX1/2-C1A-R1A Modified VOST 5041A/8260 01AB 01C VOST-ANS-C1A-R1A Modified VOST 5041A/8260 02AB VOST-TX1/2-C1A-R1B Modified VOST 5041A/8260 02C VOST-ANS-C1A-R1B Modified VOST 5041A/8260 Modified VOST 5041A/8260 03AB(on hold) VOST-TX1/2-C1A-R1C 03C(on hold) VOST-ANS-C1A-R1C Modified VOST 5041A/8260 04AB Modified VOST 5041A/8260 VOST-TX1/2-C1A-R1D 04C VOST-ANS-CIA-RID Modified VOST 5041A/8260 05A VOST-COND-C1A-R1 Modified VOST 5041A/8260 06AB VOST-TX1/2-FB#1 Modified VOST 5041A/8260 Modified VOST 5041A/8260 06C VOST-ANS-FB#1 Modified VOST 5041A/8260 07AB VOST-TX1/2-C1A-R2A 07C VOST-ANS-C1A-R2A Modified VOST 5041A/8260 08AB VOST-TX1/2-C1A-R2B Modified VOST 5041A/8260 Modified VOST 5041A/8260 08C VOST-ANS-C1A-R2B Modified VOST 5041A/8260 09AB(on hold) VOST-TX1/2-C1A-R2C 09C(on hold) VOST-ANS-C1A-R2C Modified VOST 5041A/8260

Continued on next page

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

Page 2 of 29



#### WORK ORDER #: 1101209A

#### Work Order Summary

CLIENT:

Mr. Doug Roeck

BILL TO:

Accounts Payable

AECOM Environment 2 Technology Drive

Westford, MA 01886-3140

AECOM Environment 2 Technology Drive

Westford, MA 01886-3140

PHONE:

978-589-3000

P.O. # 25

25540ACM

FAX:

978-589-3100

PROJECT #

60163411 Norlite Corp.

DATE RECEIVED: DATE COMPLETED: 01/14/2011 01/18/2011

CONTACT:

Ausha Scott

FRACTION#	NAME	TEST
10AB	VOST-TX1/2-C1A-R2D	Modified VOST 5041A/8260
10C	VOST-ANS-C1A-R2D	Modified VOST 5041A/8260

ied VOST 5041A/8260 Lab Blank Modified VOST 5041A/8260 11A 11B Lab Blank Modified VOST 5041A/8260 LCS Modified VOST 5041A/8260 12A 12AA LCSD Modified VOST 5041A/8260 12B LCS Modified VOST 5041A/8260 12BB LCSD Modified VOST 5041A/8260

CERTIFIED BY:

Sinda d. Truman

DATE: 01/25/11

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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# LABORATORY NARRATIVE VOST 5041A AECOM Environment Workorder# 1101209A

Eighteen VOST 0031 Tube Set and one VOA Vial-40 mL samples were received on January 14, 2011. The laboratory performed the analysis via EPA SW-846 Method 5041A using GC/MS in the full scan component tubes are thermally desorbed for eleven minutes by UHP helium carrier gas. The gas stream is then bubbled through 5 mL of organic free water and trapped on the sorbent trap of the purge and trap system. The trap is thermally desorbed to elute the components into the GC/MS system for further separation. See the data sheets for the reporting limits for each compound.

Requirement	VOST 5041A	ATL Modifications
Batch Certification	Blanks from the same media as samples	Analysis of set of cartridges prior to onset of any project; Sampling media provided by the client is batch certified ahead of time, only if client provides blank cartridges.
Method blank	Cartridges from the same media batches as the samples	Media batch is certified prior to use in the field. Method Blank is used to certify instrument is contaminant free
Connection between cartridge thermal desorption apparatus & sample purge vessel	PTFE 1/16" Teflon tubing	Heated, 1/16" silica lined stainless steel tubing
Calibration Criteria for non-CCCs	RSD +- 15 % for all non-CCCs	RSD = 30 % for some compounds: Acetone, Bromoform, Vinyl Acetate, Bromomethane, Chloromethane, 1,1,2,2-Tetracholoroethane, & 1,2,3-Trichloropropane</td

#### **Receiving Notes**

Samples VOST-TX1/2-C1A-R1C and VOST-ANS-C1A-R1C, VOST-TX1/2-C1A-R2C and VOST-ANS-C1A-R2C were placed on hold per the client's request.

#### **Analytical Notes**

Per client request, Chlorobenzene, a compound that is not validated under Method 0031 collection protocols was reported in this work order. This compound may not be suitable for collection by Method 0031 due to elevated boiling point (> 121 degrees C.), polar water solubility or reactivity. The laboratory analytical method 5041A/8260B is validated for all target analytes.

Chlorobenzene, a compound other than those listed in method 0031 section 1.1, may exhibit poor recovery from the Anasorb. In addition the laboratory method has not been validated for recovery of these additional compounds from Anasorb and the values are semi-quantitative in nature and reported as estimated.

The recovery of surrogate Toluene-d8 in samples VOST-ANS-C1A-R1A, VOST-ANS-C1A-R1B, VOST-ANS-C1A-R1D, VOST-ANS-FB#1, VOST-TX1/2-C1A-R2A, VOST-ANS-C1A-R2A, VOST-ANS-C1A-R2B, and VOST-ANS-C1A-R2D was outside control limits. It is not possible to re-run to confirm matrix or dilute for matrix using sorbent tube media. Data is reported as qualified.



#### **Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

- B Compound present in laboratory blank or tube certification greater than reporting limit (background subtraction not performed).
- J Estimated value.
- E Exceeds instrument calibration range.
- S Saturated peak.
- Q Exceeds quality control limits.
- U Compound analyzed for but not detected above the detection limit.
- N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



Client Sample ID: VOST-TX1/2-C1A-R1A

Lab ID#: 1101209A-01AB

	Rpt. Limit	Amount
Compound	(ng)	(ng)
Chlorobenzene	5.0	220

Client Sample ID: VOST-ANS-C1A-R1A

Lab ID#: 1101209A-01C

No Detections Were Found.

Client Sample ID: VOST-TX1/2-C1A-R1B

Lab ID#: 1101209A-02AB

•	Rpt. Limit	Amount
Compound	(ng)	(ng)
Chlorobenzene	5.0	260

Client Sample ID: VOST-ANS-C1A-R1B

Lab ID#: 1101209A-02C No Detections Were Found.

Client Sample ID: VOST-TX1/2-C1A-R1D

Lab ID#: 1101209A-04AB

	Rpt. Limit	Amount	
Compound	(ng)	(ng)	
Chlorobenzene	5.0	270	

Client Sample ID: VOST-ANS-C1A-R1D

Lab ID#: 1101209A-04C

No Detections Were Found.

Client Sample ID: VOST-COND-C1A-R1

Lab ID#: 1101209A-05A No Detections Were Found.

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Client Sample ID: VOST-TX1/2-FB#1

Lab ID#: 1101209A-06AB

No Detections Were Found.

Client Sample ID: VOST-ANS-FB#1

Lab ID#: 1101209A-06C No Detections Were Found.

Client Sample ID: VOST-TX1/2-C1A-R2A

Lab ID#: 1101209A-07AB

	Rpt. Limit	Amount
Compound	(ng)	(ng)
Chlorobenzene	5.0	240

Client Sample ID: VOST-ANS-C1A-R2A

Lab ID#: 1101209A-07C
No Detections Were Found.

Client Sample ID: VOST-TX1/2-C1A-R2B

Lab ID#: 1101209A-08AB

	Rpt. Limit	Amount
Compound	(ng)	(ng)
Chlorobenzene	5.0	220

Client Sample ID: VOST-ANS-C1A-R2B

Lab ID#: 1101209A-08C

No Detections Were Found.

Client Sample ID: VOST-TX1/2-C1A-R2D

Lab ID#: 1101209A-10AB

	Rpt. Limit	Amount
Compound	(ng)	(ng)
Chlorobenzene	5.0	230



Client Sample ID: VOST-ANS-C1A-R2D

Lab ID#: 1101209A-10C No Detections Were Found.



#### Client Sample ID: VOST-TX1/2-C1A-R1A Lab ID#: 1101209A-01AB

WIODIFIED VOST 5041A/8200B				
File Name:	4011413	Date of Collec	tion: 1/13/11	
Dil. Factor:	1.00	Date of Analysis: 1/14/11 00		
		Rpt. Limit	Amount	
Compound		(ng)	(ng)	
Chlorobenzene		5.0	220	
Container Type: VOST 00	31 Tube Set			
			Method	
Surrogates		%Recovery	Limits	
Toluene-d8		98	70-130	



#### Client Sample ID: VOST-ANS-C1A-R1A Lab ID#: 1101209A-01C

MODIFIED VOST 504TA/6200B				
File Name:	4011410	Date of Colle	ction: 1/13/11	
Dil. Factor:	1.00	Date of Analy	/sis: 1/14/11 03:55 PM	
		Rpt. Limit	Amount	
Compound		(ng)	(ng)	
Chlorobenzene		5.0	Not Detected	
Q = Exceeds Quality Contr	rol limits.			
Container Type: VOST 00	31 Tube Set			
			Method	
Surrogates		%Recovery	Limits	
Toluene-d8		25 Q	50-150	



#### Client Sample ID: VOST-TX1/2-C1A-R1B Lab ID#: 1101209A-02AB

File Name:	4011414	Date of Collec	tion: 1/13/41
Dil. Factor:	1.00		is: 1/14/11 06:39 PM
		Rpt. Limit	Amount
Compound		(ng)	(ng)
Chlorobenzene		5.0	260
Container Type: VOST 00	31 Tube Set		
			Method
Surrogates		%Recovery	Limits
Toluene-d8		100	70-130



#### Client Sample ID: VOST-ANS-C1A-R1B

#### Lab ID#: 1101209A-02C

File Name:	4011412	Date of Colle	ction: 1/13/11
Dil. Factor:	1.00	Date of Analy	/sis: 1/14/11 05:27 PM
Compound		Rpt. Limit (ng)	Amount (ng)
Chlorobenzene		5.0	Not Detected
Q = Exceeds Quality Control I	imits.		
Container Type: VOST 0031	Tube Set		
			Method
Surrogates		%Recovery	Limits
Toluene-d8		38 Q	50-150



#### Client Sample ID: VOST-TX1/2-C1A-R1D Lab ID#: 1101209A-04AB

	MODIFIED	/US1 5041A/8200B	•
File Name:	4011416	Date of Collec	tion: 1/13/11
Dil. Factor:	1.00	Date of Analys	sis: 1/14/11 09:13 PM
Compound		Rpt. Limit (ng)	Amount (ng)
Chlorobenzene		5.0	270
Container Type: VOST 00	31 Tube Set		
Surrogates		%Recovery	Method Limits
Toluene-d8		111	70-130



#### Client Sample ID: VOST-ANS-C1A-R1D Lab ID#: 1101209A-04C

File Name:	4011409		llectîon: 1/13/11	
Dil. Factor:	1.00	Date of Analy	/sis: 1/14/11 03:20 PM	
Compound		Rpt. Limit (ng)	Amount (ng)	
Chlorobenzene		5.0	Not Detected	
Q = Exceeds Quality Cont	rol limits.			
Container Type: VOST 00	31 Tube Set			
			Method	
Surrogates		%Recovery	Limits	
Toluene-d8		46 Q	50-150	



#### Client Sample ID: VOST-COND-C1A-R1 Lab ID#: 1101209A-05A

	MODIFIED	VUS1 5041A/8260B	
File Name:	4011715	Date of Collection: 1/13/11	
Dil. Factor:	1.00	Date of Analy	sis: 1/17/11 01:59 PM
Compound		Rpt. Limit (ng)	Amount (ng)
Chlorobenzene		40	Not Detected
Container Type: VOA Via	I-40 mL		
		•	Method
Surrogates		%Recovery	Limits
Toluene-d8		113	70-130



#### Client Sample ID: VOST-TX1/2-FB#1 Lab ID#: 1101209A-06AB

	MODIFIED	/ OS1 3041A/6200B	·· -· -
File Name:	4011721	Date of Colle	ction: 1/13/11
Dil. Factor:	1.00	Date of Analysis: 1/17/11 05:55 P	
		Rpt. Limit	Amount
Compound		(ng)	(ng)
Chlorobenzene		5.0	Not Detected
Container Type: VOST 0031	Tube Set		
			Method
Surrogates		%Recovery	Limits
Toluene-d8		112	70-130



Surrogates

Toluene-d8

#### Client Sample ID: VOST-ANS-FB#1 Lab ID#: 1101209A-06C

#### MODIFIED VOST 5041A/8260B

File Name:	4011716	Date of Colle	ction: 1/13/11
Dil. Factor:	1.00	Date of Analy	ysis: 1/17/11 03:34 PM
Compound		Rpt. Limit (ng)	Amount (ng)
Chlorobenzene		5.0	Not Detected
Q = Exceeds Quality Cont Container Type: VOST 00			
Tomamor Typo: Tool of			Method

%Recovery

23 Q

Limits

50-150



#### Client Sample ID: VOST-TX1/2-C1A-R2A Lab ID#: 1101209A-07AB

MODIFIED VOSI 3041AV6200B			
File Name:	4011722	Date of Collec	tion: 1/13/11
Dil. Factor:	1.00	Date of Analys	sis: 1/17/11 06:37 PM
Compound		Rpt. Limit (ng)	Amount (ng)
Chlorobenzene		5.0	240
Q = Exceeds Quality Conti	rol limits.		
Container Type: VOST 00	31 Tube Set		
			Method
Surrogates		%Recovery	Limits
Toluene-d8		131 Q	70-130



### Client Sample ID: VOST-ANS-C1A-R2A Lab ID#: 1101209A-07C

#### MODIFIED VOST 5041A/8260B

File Name:	4011717	Date of Collect	ction: 1/13/11
Dil. Factor:	1.00	Date of Analy	sis: 1/17/11 04:06 PM
		Rpt. Limit	Amount
Compound		(ng)	(ng)
Chlorobenzene		5.0	Not Detected
Q = Exceeds Quality Contro	l limits.		
Container Type: VOST 003	1 Tube Set		
			Method
Surrogates		%Recovery	Limits

39 Q

Toluene-d8

50-150



#### Client Sample ID: VOST-TX1/2-C1A-R2B Lab ID#: 1101209A-08AB

File Name: 4011723 Date of Collection: Dil. Factor: 1.00 Date of Analysis:  Rpt. Limit	
	: 1/13/11
Rpt. Limit	1/17/11 07:08 PM
Companyed	Amount
Compound (ng)	(ng)
Chlorobenzene 5.0	220
Container Type: VOST 0031 Tube Set	
	Method
Surrogates %Recovery	Limits
Toluene-d8 124	70-130



#### Client Sample ID: VOST-ANS-C1A-R2B

Lab ID#: 1101209A-08C

#### MODIFIED VOST 5041A/8260B

File Name:	4011718	Date of Colle	ction: 1/13/11
Dil. Factor:	1.00 Date of Analys	sis: 1/17/11 04:31 PM	
		Rpt. Limit	Amount
Compound		(ng)	(ng)
Chlorobenzene		5.0 ·	Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

		Method
Surrogates	%Recovery	Limits
Toluene-d8	32 Q	50-150



#### Client Sample ID: VOST-TX1/2-C1A-R2D Lab ID#: 1101209A-10AB

WIODIFIED VOS1 5041A/8260B				
File Name:	4011725	Date of Collec	tion: 1/13/11	
Dil. Factor:	1.00	Date of Analys	of Analysis: 1/17/11 08:24 PM	
		Rpt. Limit	Amount	
Compound		(ng)	(ng)	
Chlorobenzene		5.0	230	
Container Type: VOST 00	31 Tube Set			
			Method	
Surrogates		%Recovery	Limits	
Toluene-d8		110	70-130	



## Client Sample ID: VOST-ANS-C1A-R2D

### Lab ID#: 1101209A-10C

File Name: Dil. Factor:	4011720 1.00	Date of Collection: 1/13/11 Date of Analysis: 1/17/11 05:24 PM	
Compound		Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	••	5.0	Not Detected
Q = Exceeds Quality Conf	rol limits.		
Container Type: VOST 0	031 Tube Set		
			Method
Surrogates		%Recovery	Limits
Toluene-d8		31 Q	50-150



#### Client Sample ID: Lab Blank Lab ID#: 1101209A-11A

	MODIFIED V	US1 5041A/8260B	
File Name:	4011406a	Date of Colle	ction: NA
Dil. Factor:	1.00	1.00 Date of Analysis	
Compound		Rpt. Limit (ng)	Amount (ng)
Chlorobenzene		5.0	Not Detected
Container Type: NA - No	t Applicable		
Surrogates		%Recovery	Method Limits
Toluene-d8		111	70-130



#### Client Sample ID: Lab Blank Lab ID#: 1101209A-11B

<u> </u>	MODIFIED	VOST 3041AV8200B		
File Name:	4011714	Date of Colle	ction: NA	
Dil. Factor:	1.00	Date of Analy	nalysis: 1/17/11 01:12 PM	
Compound		Rpt. Limit (ng)	Amount (ng)	
Chlorobenzene		5.0	Not Detected	
Container Type: NA - Not Ap	pplicable			
Surrogates		%Recovery	Method Limits	
Toluene-d8		109	70-130	



#### Client Sample ID: LCS Lab ID#: 1101209A-12A

#### MODIFIED VOST 5041A/8260B

File Name:	4011403a
Dil. Factor:	1.00

**Date of Collection: NA** 

Date of Analysis: 1/14/11 11:02 AM

Compound%RecoveryChlorobenzene110

Container Type: NA - Not Applicable

Surrogates%RecoveryMethod LimitsToluene-d810770-130



#### Client Sample ID: LCSD Lab ID#: 1101209A-12AA

#### MODIFIED VOST 5041A/8260B

File Name:	4011404a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/14/11 11:43 AM

Compound%RecoveryChlorobenzene109

Container Type: NA - Not Applicable

AAAVANI	Limits
 110	70-130



#### Client Sample ID: LCS Lab ID#: 1101209A-12B

#### MODIFIED VOST 5041A/8260B

File Name:	4011710	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/17/11 11:56 AM

Compound%RecoveryChlorobenzene110

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130



#### Client Sample ID: LCSD Lab ID#: 1101209A-12BB

#### MODIFIED VOST 5041A/8260B

File Name:	4011711	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/17/11 12:21 PM

Compound%RecoveryChlorobenzene112

Container Type: NA - Not Applicable

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	106	70-130	



## **AECOM**

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## Sample Packing and Traceability List

Site of I	Program: Norlite Corp.	Sample Date: ///&-/	3/11	Project Location:	Cohoes, NY	P.O. #:	25540ACM
<del></del>	Program: 2010 MACT CPT		3/11	Laboratory:	Air Toxics, Ltd.		A PROPERTY OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE
Project		Shipper / Doug Réeck		Test Condition:	C1A = Condition 1 Re	vised	
	m Office: Westford, MA	Recovery: Fred Sangued	loice	Fades Al- Bill 4s	9720 CE77 040C 8 97	20 6577 0200	
	m Contact: Doug Roeck				8739 6577 0196 & 87		Considerations
Item	Sample ID Code	Sample Matrix	<del></del>	le Description	Analitical Paran		Special Instructions
0	VOST-TX1-C1A-R1A	Culture Tube		, Pair A, C1A, Run 1	Monochlorobenzene o		Codesorb Tenax Tubes
3	VOST-TX2-C1A-R1A	Culture Tube		, Pair A, C1A, Run 1	Monochlorobenzene c	<del></del>	Codesorb Tenax Tubes
3	VOST-ANS-C1A-R1A	Culture Tube		#3, Pair A, C1A, Run 1	Monochlorobenzene c		Analyze Individually
<b>(4)</b>	VOST-TX1-C1A-R1B	Culture Tube		, Pair B, C1A, Run 1	Monochlorobenzene o		Codesorb Tenax Tubes
Ġ	VOST-TX2-C1A-R1B	Culture Tube		, Pair B, C1A, Run 1	Monochlorobenzene c		Codesorb Tenax Tubes
6	VOST-ANS-C1A-R1B	Culture Tube		#3, Pair B, C1A, Run 1	Monochlorobenzene o	only	Analyze Individually
0	VOST-TX1-C1A-R1C	Culture Tube	Tenax Tube #1	, Pair C, C1A, Run 1	Monochlorobenzene c	only	Archive / Hold
<b>8</b>	VOST-TX2-C1A-R1C	Culture Tube	Tenax Tube #2	, Pair C, C1A, Run 1	Monochlorobenzene o	only	Archive / Hold
9	VOST-ANS-C1A-R1C	Culture Tube	Anasorb Tube #	#3, Pair C, C1A, Run 1	Monochlorobenzene o	oniy	Archive / Hold
	VOST-TX1-C1A-R1D	Culture Tube	Tenax Tube #1	, Pair D, C1A, Run 1	Monochiorobenzene d	only	Codesorb Tenax Tubes
0	VOST-TX2-C1A-R1D	Culture Tube	Tenax Tube #2	, Pair D, C1A, Run 1	Monochlorobenzene d	only	Codesorb Tenax Tubes
10	VOST-ANS-C1A-R1D	Culture Tube	Anasorb Tube #	#3, Palr D, C1A, Run 1	Monochiorobenzene d	only	Analyze Individually
13							
<b>(3)</b>	VOST-COND-C1A-R1	Water	Condensate, C	1A, Run 1	Monochlorobenzene d	only	
15				•			
6	VOST-TX1-FB#1	Culture Tube	Tenax Tube #1	, Field Blank #1	Monochlorobenzene d	only	Codesorb Tenax Tubes
17	VO\$T-TX2-FB#1	Culture Tube	Tenax Tube #2	, Field Blank #1	Monochlorobenzene o	only	Codesorb Tenax Tubes
(6)	VOST-ANS-FB#1	Culture Tube	Anasorb Tube #	#3, Field Blank #1	Monochlorobenzene o	only	Analyze Individually
19							
20					***************************************		
Field N	otes/ Comments 1. Analyze	VOST tube sets A, B and D	and hold set C	Analyze set C only if	necessary. Fel	• •	
I leta in		nalyte - monochiorobenze		, raidijeo oot o oilij ii		Silin managan y	
1	2	mpling during test condition			CUSTOD	TWAT T	
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## Sample Packing and Traceability List

Γ	Site of F	Program: Norlite Corp.	Sample Date: 1/12-		Project Location:		P.O. #:	25540ACM
		Program: 2010 MACT CPT		3/11	Laboratory:	Air Toxics, Ltd.		
	Project		Shipper / Doug Roeck	1	Test Condition:	C1A = Condition 1 Rev	/Ised	
1		Office: Westford, MA	Recovery: Fred Sangued	oice	CadCy Air Dill #1	8739 6577 0196 & 873	10 6577 0200	Pulling Charles of Carlo
Į.	Item	Contact: Doug Roeck Sample ID Code	Sample Matrix		e Description	Analitical Param		Special Instructions
OFA		VOST-TX1-C1A-R2A	Culture Tube		Pair A, C1A, Run 2	Monochlorobenzene o		Codesorb Tenax Tubes
	25	VOST-TX1-C1A-R2A	Culture Tube		Pair A, C1A, Run 2	Monochlorobenzene o		Codesorb Tenax Tubes
076 070	- 63	VOST-ANS-C1A-R2A	Culture Tube		3, Pair A, C1A, Run 2	Monochlorobenzene o	<u> </u>	Arialyze Individually
08A	(21) (22) (23) (23) (24)	VOST-TX1-C1A-R2B	Culture Tube		Pair B, C1A, Run 2	Monochlorobenzene o		Codesorb Tenax Tubes
088	<i>(25)</i>	VOST-TX2-C1A-R2B	Culture Tube		Pair B, C1A, Run 2	Monochlorobenzene o	niy	Codesorb Tenax Tubes
09C	(25) (26) (27) (28)	VOST-ANS-C1A-R2B	Culture Tube	Anasorb Tube #	3, Pair B, C1A, Run 2	Monochlorobenzene o	nly	Analyze Individually
og _A	(27)	VOST-TX1-C1A-R2C	Culture Tube	Tenax Tube #1,	Pair C, C1A, Run 2	Monachlorobenzene o	niy	Archive / Hold
0415	28)	VOST-TX2-C1A-R2C	Culture Tube	Tenax Tube #2,	Pair C, C1A, Run 2	Monochlorobenzene o	nly	Archive / Hold
090	(29)	VOST-ANS-C1A-R2C	Culture Tube	Anasorb Tube #	3, Pair C, C1A, Run 2	Monochlorobenzene o	nly	Archive / Hold
102	(39) (30)	VOST-TX1-C1A-R2D	Culture Tube	Tenax Tube #1,	Pair D, C1A, Run 2	Monochiorobenzene o	nly	Codesorb Tenax Tubes
108	(31)	VOST-TX2-C1A-R2D	Culture Tube	Tenax Tube #2,	Pair D, C1A, Run 2	Monochiorobenzene o	nly	Codesorb Tenax Tubes
coc	(32)	VOST-ANS-C1A-R2D	Culture Tube	Anasorb Tube #	3, Pair D, C1A, Run 2	Monochlorobenzene o	nly	Analyze Individually
· ·	33							
	33 34)	VOST-COND-C1A-R2	Water	Condensate, C	IA, Run 2	Monochlorobenzene o	nly	
''/	35							
Pf.	(36)	VOST-TX1-TB#1	Culture Tube-	Tenax Tube #1,		Monochlorobenzene o	_ <u></u>	Codesorb Tenax Tubes
eks !	35 36 37 38	VOST-TX2-TB#1	Culture Tube	Tenax Tube #2,		Monochlorobenzene o		Codesorb Tenax Tubes
nc		VOST-ANS-TB#1	Culture Tube	Anasorb Tube #	/3, Trip Blank #1	Monochlorobenzene o	nly	Analyze Individually
الشيرا	39							
	40			- <del></del>			f	
hn [	Field No	=	VOST tube sets A, B and D		. Analyze set C only if	necessary. [2]		<b>-</b>
1/14/4			nalyte - monochlorobenze	•		CUSTODY	EAL INTACT	7
* * * *		3. VOST sa	mpling during test condition	on C1A only		A N MONE	TEMP 6.0	Page <u>2</u> of <u>3</u>
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NEICVP1120E01



1/25/2011 Mr. Doug Roeck AECOM Environment 2 Technology Drive

Westford MA 01886-3140

Project Name: Norlite Corp.

Project #: 60163411 Workorder #: 1101209B

Dear Mr. Doug Roeck

The following report includes the data for the above referenced project for sample(s) received on 1/14/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified VOST 5041A/8260B are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 .FAX (916) 985-1020 Hours 6:30 A.M to 5:30 PST

Page 1 of 21



PHONE:

DATE COMPLETED:

#### WORK ORDER #: 1101209B

Work Order Summary

CLIENT: Mr. Doug Roeck BILL TO:

01/19/2011

AECOM Environment

2 Technology Drive

Westford, MA 01886-3140

978-589-3000 P.O. # 25540ACM

FAX: 978-589-3100 PROJECT # 60163411 Norlite Corp.

DATE RECEIVED: 01/14/2011 CONTACT: Ausha Scott

FRACTION# TEST **NAME** Modified VOST 5041A/8260 11A VOST-COND-C1A-R2 VOST-TX1/2-TB #1 Modified VOST 5041A/8260 12AB Modified VOST 5041A/8260 12C VOST-ANS-TB #1 13AB VOST-TX1/2-C1A-R3A Modified VOST 5041A/8260 Modified VOST 5041A/8260 13C VOST-ANS-C1A-R3A Modified VOST 5041A/8260 14AB VOST-TX1/2-C1A-R3B 14C VOST-ANS-C1A-R3B Modified VOST 5041A/8260 15AB(on hold) VOST-TX1/2-C1A-R3C Modified VOST 5041A/8260 15C(on hold) VOST-ANS-C1A-R3C Modified VOST 5041A/8260 **16AB** VOST-TX1/2-C1A-R3D Modified VOST 5041A/8260 VOST-ANS-CIA-R3D Modified VOST 5041A/8260 16C Modified VOST 5041A/8260 VOST-COND-C1A-R3 17A VOST-TX1/2-FB#2 Modified VOST 5041A/8260 18AB VOST-ANS-FB#2 Modified VOST 5041A/8260 18C Lab Blank Modified VOST 5041A/8260 19A LCS Modified VOST 5041A/8260 20A

CERTIFIED BY:

20AA

Sinda d. Fruman

DATE: 01/25/11

Modified VOST 5041A/8260

Accounts Payable

2 Technology Drive

AECOM Environment

Westford, MA 01886-3140

Laboratory Director

LCSD

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

Page 2 of 21



# LABORATORY NARRATIVE VOST 5041A AECOM Environment Workorder# 1101209B

Two VOA Vial-40 mL and twelve VOST 0031 Tube Set samples were received on January 14, 2011. The laboratory performed the analysis via EPA SW-846 Method 5041A using GC/MS in the full scan mode. VOST sorbent tubes are thermally desorbed for eleven minutes by UHP helium carrier gas. The gas stream is then bubbled through 5 mL of organic free water and trapped on the sorbent trap of the purge and trap system. The trap is thermally desorbed to elute the components into the GC/MS system for further separation. See the data sheets for the reporting limits for each compound.

Requirement	VOST 5041A	ATL Modifications
Batch Certification	Blanks from the same media as samples	Analysis of set of cartridges prior to onset of any project; Sampling media provided by the client is batch certified ahead of time, only if client provides blank cartridges.
Method blank	Cartridges from the same media batches as the samples	Media batch is certified prior to use in the field. Method Blank is used to certify instrument is contaminant free
Connection between cartridge thermal desorption apparatus & sample purge vessel	PTFE 1/16" Teflon tubing	Heated, 1/16" silica lined stainless steel tubing
Calibration Criteria for non-CCCs	RSD +- 15 % for all non-CCCs	RSD = 30 % for some compounds: Acetone, Bromoform, Vinyl Acetate, Bromomethane, Chloromethane, 1,1,2,2-Tetracholoroethane, & 1,2,3-Trichloropropane</td

#### **Receiving Notes**

Samples VOST-TX1/2-C1A-R3C and VOST-ANS-C1A-R3C were placed on hold per the client's request.

#### **Analytical Notes**

Per client request, Chlorobenzene, a compound that is not validated under Method 0031 collection protocols was reported in this work order. This compound may not be suitable for collection by Method 0031 due to elevated boiling point (> 121 degrees C.), polar water solubility or reactivity. The laboratory analytical method 5041A/8260B is validated for all target analytes.

Chlorobenzene, a compound other than those listed in method 0031 section 1.1, may exhibit poor recovery from the Anasorb. In addition the laboratory method has not been validated for recovery of these additional compounds from Anasorb and the values are semi-quantitative in nature and reported as estimated.

The recovery of surrogate Toluene-d8 in samples VOST-ANS-TB #1, VOST-ANS-C1A-R3A, VOST-ANS-C1A-R3B, VOST-ANS-C1A-R3D, and VOST-ANS-FB#2 was outside control limits. It is not possible to re-run to confirm matrix or dilute for matrix using sorbent tube media. Data is reported as qualified.



#### **Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

- B Compound present in laboratory blank or tube certification greater than reporting limit (background subtraction not performed).
- J Estimated value.
- E Exceeds instrument calibration range.
- S Saturated peak.
- Q Exceeds quality control limits.
- U Compound analyzed for but not detected above the detection limit.
- N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



Client Sample ID: VOST-COND-C1A-R2

Lab ID#: 1101209B-11A

No Detections Were Found.

Client Sample ID: VOST-TX1/2-TB #1

Lab ID#: 1101209B-12AB

No Detections Were Found.

Client Sample ID: VOST-ANS-TB #1

Lab ID#: 1101209B-12C

No Detections Were Found.

Client Sample ID: VOST-TX1/2-C1A-R3A

Lab ID#: 1101209B-13AB

	Rpt. Limit	Amount
Compound	(ng)	(ng)
Chlorobenzene	5.0	220

Client Sample ID: VOST-ANS-C1A-R3A

Lab ID#: 1101209B-13C
No Detections Were Found.

Client Sample ID: VOST-TX1/2-C1A-R3B

Lab ID#: 1101209B-14AB

	Rpt. Limit	Amount
Compound	(ng)	(ng)
Chlorobenzene	5.0	240

Client Sample ID: VOST-ANS-C1A-R3B

Lab ID#: 1101209B-14C
No Detections Were Found.



Client Sample ID: VOST-TX1/2-C1A-R3D

Lab ID#: 1101209B-16AB

	Rpt. Limit	Amount
Compound	(ng)	(ng)
Chlorobenzene	5.0	260

Client Sample ID: VOST-ANS-C1A-R3D

Lab ID#: 1101209B-16C

No Detections Were Found.

Client Sample ID: VOST-COND-C1A-R3

Lab ID#: 1101209B-17A

No Detections Were Found.

Client Sample ID: VOST-TX1/2-FB#2

Lab ID#: 1101209B-18AB
No Detections Were Found.

Client Sample ID: VOST-ANS-FB#2

Lab ID#: 1101209B-18C No Detections Were Found.



#### Client Sample ID: VOST-COND-C1A-R2

Lab ID#: 1101209B-11A

MODIFIED	VOST	5041.	A/8260B
	1001	JU 11/	3. 02 UUD

WODIFIED VOST 5041A/8200B				
File Name:	4011808	Date of Collection: 1/13/11		
Dil. Factor:	1.00	Date of Analy	rsis: 1/18/11 11:36 AM	
		Rpt. Limit	Amount	
Compound		(ng)	(ng)	
Chlorobenzene		40	Not Detected	
Container Type: VOA Vial-	40 mL			
			Method	
Surrogates		%Recovery	Limits	
Toluene-d8		104	70-130	



# Client Sample ID: VOST-TX1/2-TB #1

# Lab ID#: 1101209B-12AB MODIFIED VOST 5041A/8260B

File Name:	4011815	Date of Collection: 1/13/11
Dil. Factor:	1.00	Date of Analysis: 1/18/11 03:14 PM

	Rpt. Limit	Amount
Compound	(ng)	(ng)
Chlorobenzene	5.0	Not Detected

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	89	70-130



# Client Sample ID: VOST-ANS-TB #1

Lab ID#: 1101209B-12C

# MODIFIED VOST 5041A/8260B

File Name: Dil. Factor:	4011810 1.00		ction: 1/13/11 /sis: 1/18/11 12:37 PM
Compound	1.00	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene		5.0	Not Detected
Q = Exceeds Quality Cont Container Type: VOST 00			
Surrogates		%Recovery	Method Limits

23 Q

Toluene-d8

50-150



# Client Sample ID: VOST-TX1/2-C1A-R3A Lab ID#: 1101209B-13AB

### MODIFIED VOST 5041 A/8260R

MODIFIED VOST 5041A/8260B			
File Name:	4011816	Date of Collec	tion: 1/13/11
Dil. Factor:	1.00	Date of Analys	is: 1/18/11 03:42 PM
		Rpt. Limit	Amount
Compound		(ng)	(ng)
Chlorobenzene		5.0	220
Container Type: VOST 00	31 Tube Set		
			Method
Surrogates		%Recovery	Limits
Toluene-d8		89	70-130



# Client Sample ID: VOST-ANS-C1A-R3A Lab ID#: 1101209B-13C

#### MODIFIED VOST 5041 A/8260B

MODIFIED VOST 5041A/8260B				
File Name:	4011811 Date	Date of Collect	e of Collection: 1/13/11	
Dil. Factor:	1.00	Date of Analy	ysis: 1/18/11 01:16 PM	
		Rpt. Limit	Amount	
Compound		(ng)	(ng)	
Chlorobenzene		5.0	Not Detected	
Q = Exceeds Quality Cont	rol limits.			
Container Type: VOST 00	31 Tube Set			
			Method	
Surrogates		%Recovery	Limits	

24 Q

Toluene-d8

50-150



# Client Sample ID: VOST-TX1/2-C1A-R3B

# Lab ID#: 1101209B-14AB

# MODIFIED VOST 5041A/8260B

MODIFIED VOST 3041A/8200B			
File Name:	4011817	Date of Collec	tion: 1/13/11
Dil. Factor:	1.00	Date of Analys	sis: 1/18/11 04:10 PM
Compound		Rpt. Limit (ng)	Amount (ng)
Chlorobenzene		5.0	240
Container Type: VOST 00	31 Tube Set		
Surrogates		%Recovery	Method Limits
Toluene-d8	_	72	70-130



# Client Sample ID: VOST-ANS-C1A-R3B Lab ID#: 1101209B-14C

# MODIFIED VOST 5041A/8260B

File Name:	4011812	Date of Colle	ction: 1/13/11
Dil. Factor:	1.00	Date of Analy	ysis: 1/18/11 01:42 PM
Compound		Rpt. Limit (ng)	Amount (ng)
Chlorobenzene		5.0	Not Detected
Q = Exceeds Quality Control li	mits.		
Container Type: VOST 0031	Tube Set		
			Method
Surrogates		%Recovery	Limits
Toluene-d8		21 Q	50-150



# Client Sample ID: VOST-TX1/2-C1A-R3D

### Lab ID#: 1101209B-16AB MODIFIED VOST 5041A/8260B

MODIFIED VOST 504TA/8200B			
File Name:	4011818	Date of Collec	tion: 1/13/11
Dil. Factor:	1.00	Date of Analys	sis: 1/18/11 04:37 PM
		Rpt. Limit	Amount
Compound		(ng)	(ng)
Chlorobenzene		5.0	260
Container Type: VOST 00	31 Tube Set		
			Method
Surrogates		%Recovery	Limits
Toluene-d8		89	70-130



# ${\bf Client\ Sample\ ID:\ VOST-ANS-C1A-R3D}$

# Lab ID#: 1101209B-16C

# MODIFIED VOST 5041A/8260B

File Name:	4011813	Date of Collection:	1/13/11
Dil. Factor:	1.00	Date of Analysis: 1	/18/11 02:10 PM
		Rnt Limit	Amount

Compound (ng) (ng)

Chlorobenzene 5.0 Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

		Method
Surrogates	%Recovery	Limits
Toluene-d8	29 Q	50-150



# Client Sample ID: VOST-COND-C1A-R3

# Lab ID#: 1101209B-17A

MODIFIED VOST 5041A/8260B			
4011809	Date of Colle	ction: 1/13/11	
1.00	Date of Analy	ysis: 1/18/11 12:05 PM	
	Rpt. Limit	Amount	
	(ng)	(ng)	
	40	Not Detected	
	•	Method	
	%Recovery	Limits	
	104	70-130	
	4011809	4011809 Date of Colle 1.00 Date of Analy Rpt. Limit (ng) 40  %Recovery	



# Client Sample ID: VOST-TX1/2-FB#2 Lab ID#: 1101209B-18AB

#### MODIFIED VOST 5041 A/8260B

	MQDIF1ED VOST 5041A/8260B									
File Name:	4011819	Date of Colle	ction: 1/13/11							
Dil. Factor:	1.00	Date of Analy	/sis: 1/18/11 05:05 PM 🕟							
		Rpt. Limit	Amount							
Compound		(ng)	(ng)							
Chlorobenzene		5.0	Not Detected							
Container Type: VOST 00	31 Tube Set									
			Method							
Surrogates		%Recovery	Limits							
Toluene-d8		91	70-130							



# Client Sample ID: VOST-ANS-FB#2

# Lab ID#: 1101209B-18C

# MODIFIED VOST 5041A/8260B

File Name:	4011814	Date of Colle	ction: 1/13/11		
Dil. Factor:	1.00	Date of Analy	of Analysis: 1/18/11 02:47 PM		
	110	Rpt. Limit	Amount		
Compound		(ng)	(ng)		
Chlorobenzene		5.0	Not Detected		

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	33 Q	50-150



# Client Sample ID: Lab Blank Lab ID#: 1101209B-19A

# MODIFIED VOST 5041A/8260B

	NIODIFIED	031 3041A/0200B	
File Name:	4011807	Date of Colle	ction: NA
Dil. Factor:	1.00	Date of Analy	/sis: 1/18/11 11:07 AM
		Rpt. Limit	Amount
Compound		(ng)	(ng)
Chlorobenzene		5.0	Not Detected
Container Type: NA - Not	Applicable		
•			Method
Surrogates		%Recovery	Limits
Toluene-d8	<del></del>	100	70-130



# Client Sample ID: LCS Lab ID#: 1101209B-20A

# MODIFIED VOST 5041A/8260B

1			
Fí	ile Name:	4011804	Date of Collection: NA
l pi	il. Factor:	1.00	Date of Analysis: 1/18/11 09:31 AM

Compound		%Recovery
Chlorobenzene		109
Container Type: NA - Not Applicable		
		Method
Surrogates	%Recovery	Limits
Toluene-d8	106	70-130



# Client Sample ID: LCSD Lab ID#: 1101209B-20AA

# MODIFIED VOST 5041A/8260B

File Name: 4011805 Dil. Factor:

Date of Collection: NA

Date of Analysis: 1/18/11 09:57 AM

Compound %Recovery Chlorobenzene 100

1.00

Container Type: NA - Not Applicable

Method Surrogates %Recovery Limits Toluene-d8 100 70-130

AECOM Environment

Method 29 Metals Analysis and Method 26A Hydrogen Chloride / Chlorine Analysis (TestAmerica Sacramento)

# AECOM

#### **Multi-Metals Blank Correction**

	FRONT HALF						BACK HALF				TOTAL
	C1-	ru pu.	Default	5% of	Corrected	G1-	EII DU.	Default	5% of	Corrected	Corrected
Element	Sample μg	Fld Blk µg	Value (a) μg	Sample µg	Front Half µg	Sample µg	Fld Blk µg	Value μg	Sample µg	Back Half μg	FH+BH μg
Arsenic (As)	1.40	(0.30)	13.78	0.07	1,40	0.08	0.13 *	1.00	0.00	(0.08)	1.40
Beryllium (Be)	0.06	(0.15)	13.78	0.00	0.06	(0.15)	(0.15)	1.00		(0.15)	0.06
Cadmium (Cd)	4.20	0.04 *	13.78	0.21	4.16	0.05	(0.15)	1.00	0.00	0.05	4.20
Chromium (Cr)	33.70	0.84 *	13.78	1.69	32.86	0.24	(0.30)	1.00	0.01	0.24	33.1
Lead (Pb)	43.20	0.27 *	13.78	2.16	42.93	0.42	0.24 *	1.00	0.02	0.18	43.1

If FHB is between 0 to 13.78 μg use blank value to correct

If FHB > 13.78  $\mu g$  then use the greater of 13.78  $\mu g$  or the lesser value between FHB or 5% of FHS .

* - value used for blank correction (a) - based on a 3.54 - in. filter size

If BHB is >0 but <=1  $\mu$ g then use the BHB value to correct If BHB is >1  $\mu$ g use the greater of either 1  $\mu$ g or 5% of BH

( ) Not Detected / Reportable Detection Limit

#### MERCURY:

Mercury	Sample	Fld Blk	Default Value	5% of Sample	Corrected Amount Hg
Fraction	μg	l l	μg	1	μg
FRONT HALF	2.70	(0.03)	0.60	0.14	2.70
BACK HALF	33.69	0.18 *	0.60	1.68	33.51
		Dei G. S. e. e		TOTAL Hg	36.2

If FB is >0 but  $<=0.6 \mu g$  then use the FB value to correct If FB is  $>0.6 \mu g$  use the greater of either 0.6  $\mu g$  or 5% of FH

**CLIENT:** Norlite Corporation

PROGRAM: MACT CPT 2010

RUN NO. C2-R1

CnDocuments and Settings/rocckd/My Documents/PROJECTS/NORLITE/CV2011/Data Reporting

^( ) Not Detected / Reportable Detection Limit
* Indicates value used for blank correction

# **AECOM**

#### **Multi-Metals Blank Correction**

	FRONT HALF					BACK HALF					TOTAL
			Default	5% of	Corrected			Default	5% of	Corrected	Corrected
	Sample	Fld Blk	Value (a)	Sample	Front Half	Sample	Fld Blk	Value	Sample	Back Half	FH+BH
Element	μg	μg	μg	μg	μg	μg	μg	μg	μg	μg	μд
Arsenic (As)	1.30	(0.30)	13.78	0.07	1.30	0.08	0.13 *	1.00	0.00	(0.08)	1.30
Beryllium (Be)	0.05	(0.15)	13.78	0.00	0.05	(0.15)	(0.15)	1.00		(0.15)	0.05
Cadmium (Cd)	4.80	0.04 *	13.78	0.24	4.76	0.05	(0.15)	1.00	0.00	0.05	4.80
Chromium (Cr)	48.60	0.84 *	13.78	2.43	47.76	5.20	(0.30)	1.00	0.26	5.20	53.0
Lead (Pb)	52.70	0.27 *	13.78	2.64	52.43	0.32	0.24 *	1.00	0.02	0.08	52.5

If FHB is between 0 to 13.78  $\mu g$  use blank value to correct

If FHB >  $13.78 \mu g$  then use the greater of  $13.78 \mu g$  or the lesser value between FHB or 5% of FHS.

If BHB is >0 but <=1 µg then use the BHB value to correct If BHB is >1 µg use the greater of either 1 µg or 5% of BH

( ) Not Detected / Reportable Detection Limit

CLIENT:

RUN NO.

PROGRAM:

#### MERCURY:

Mercury Fraction	Sample µg	Fld Blk µg	Default Value μg	5% of Sample μg	Corrected Amount Hg  µg
FRONT HALF	6.10	(0.03)	0.60	0.31	6.10
BACK HALF	34.14	0.18 *	0.60	1.71	33.96
			ervaliti i i i i i i	TOTAL Hg	40.1

If FB is >0 but <=0.6 µg then use the FB value to correct If FB is >0.6 µg use the greater of either 0.6 µg or 5% of FH

CrDocuments and Settings reschickly Documents PROJECTS/NORLITE/CY2010-Data Reporting

**Norlite Corporation** 

MACT CPT 2010

C2-R2

^{* -} value used for blank correction

⁽a) - based on a 3.54 - in. filter size

^( ) Not Detected / Reportable Detection Limit

^{*} Indicates value used for blank correction



#### **Multi-Metals Blank Correction**

	FRONT HALF						BACK HALF				TOTAL
			Default	5% of	Corrected			Default	5% of	Corrected	Corrected
	Sample	Fld Blk	Value (a)	Sample	Front Half	Sample	Fld Blk	Value	Sample	Back Half	FH+BH
Element	μg	μg	μg	μg	μg	μg	μg	μg	μg	μg	μg
Arsenic (As)	1.50	(0.30)	13.78	0.08	1.50	(0.30)	0.13	1.00		(0.30)	1.50
Beryllium (Be)	0.05	(0.15)	13.78	0.00	0.05	(0.15)	(0.15)	1.00	1	(0.15)	0.05
Cadmium (Cd)	5.40	0.04 *	13.78	0.27	5.36	(0.15)	(0.15)	1.00		(0.15)	5.36
Chromium (Cr)	29.00	0.84 *	13.78	1.45	28.16	(0.30)	(0.30)	1.00		(0.30)	28.2
Lead (Pb)	65.90	0.27 *	13.78	3.30	65.63	0.13	0.24 *	1.00	0.01	(0.13)	65.6

If FHB is between 0 to 13.78  $\mu g$  use blank value to correct If FHB > 13.78  $\mu g$  then use the greater of 13.78  $\mu g$  or the lesser value between FHB or 5% of FHS.

* - value used for blank correction

(a) - based on a 3.54 - in. filter size

If BHB is >0 but <=1  $\mu$ g then use the BHB value to correct If BHB is >1  $\mu$ g use the greater of either 1  $\mu$ g or 5% of BH

( ) Not Detected / Reportable Detection Limit

#### MERCURY:

Mercury Fraction	Sample µg	Fld Blk µg	Default Value μg	5% of Sample μg	Corrected Amount Hg  µg
FRONT HALF	2.90	(0.03)	0.60	0.15	2.90
BACK HALF	31.39	0.18 *	0.60	1.57	31.21
				TOTAL Hg	34.1

If FB is >0 but <=0.6  $\mu$ g then use the FB value to correct If FB is >0.6  $\mu$ g use the greater of either 0.6  $\mu$ g or 5% of FH

( ) Not Detected / Reportable Detection Limit

* Indicates value used for blank correction

RUN NO. C2-R3

**CLIENT:** 

PROGRAM:

CeDocuments and Settings/rocckd/My Documents/PROJECTS/NORLITE/CY2011/Data Reporting

**Norlite Corporation** 

MACT CPT 2010



November 15, 2010

TestAmerica Project Number: G0J230417

PO/Contract: 10271ACM

Doug Roeck AECOM, Inc 2 Technology Park Drive Westford, MA 01886

Dear Mr. Roeck,

This report contains the analytical results for the samples received under chain of custody by TestAmerica on October 22, 2010. These samples are associated with your 60163411 Norlite project.

The test results in this report meet all NELAC requirements for parameters that accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4333.

Sincerely,

Robert Weidenfeld Project Manager

NEICVP1120E01

# **Table of Contents**

# TestAmerica West Sacramento Project Number G0J230417

Case Narrative

Quality Assurance Program

Sample Description Information

Chain of Custody Documentation

Metals – M29 Metals by ICPMS/CVAA Samples: 1, 2, 3, 4, 5, 6, 7, 8 Sample Data Sheet Method Blank Report Laboratory QC Reports

General Chemistry – HCI/Chlorine by M26A Samples: 10, 11, 12, 13, 14, 16, 17, 18, 19 Sample Data Sheet Method Blank Report Laboratory QC Reports

Raw Data Package

NEICVP1120E01

# **Case Narrative**

# **TestAmerica West Sacramento Project Number G0J230417**

# AIR, M29 Metals

The duplicate analysis performed on sample -002 back half has an RPD of 16 for chromium which is above the upper limit of 15. Both components have results below the reporting limit.

There were no other anomalies associated with this project.





#### TestAmerica Laboratories West Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
Alaska	UST-055	New York*	11666
Arizona	AZ0708	Oregon*	CA 200005
Arkansas	88-0691	Pennsylvania	68-1272
California*	01119CA	South Carolina	87014
Colorado	NA	Texas	T104704399-08-TX
Connecticut	PH-0691	Utah*	QUAN1
Florida*	E87570	Virginia	00178
Georgia	960	Washington	C1281
Hawaii	NA	West Virginia	9930C, 334
Hlinois	200060	Wisconsin	998204680
Kansas*	E-10375	NFESC	NA
Louisiana*	30612	USACE	NA
Michigan	9947	USDA Foreign Plant	37-82605
Nevada	CA44	USDA Foreign Soil	P330-09-00055
New Jersey*	CA005	US Fish & Wildlife	LE148388-0
New Mexico	NA	Guam	09-014r

^{*}NELAP accredited. A more detailed parameter list is available upon request. Updated 3/25/2009

# **QC Parameter Definitions**

QC Batch: The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

**Method Blank**: An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD): An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also be used to evaluate the precision of the process.

Duplicate Sample (DU): Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

**Surrogates:** Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

**Isotope Dilution:** For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

Control Limits: The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

# **Sample Summary**

# TestAmerica West Sacramento Project Number G0J230417

<u>WO#</u>	Sample #	Client Sample ID	Sampling Date	Received Date
L81NH	1	M29-C2-R1-FH	10/19/2010	10/22/2010 09:10 AM
L81NH	1	M29-C2-R1-FH DUP	10/19/2010	10/22/2010 09:10 AM
L81NK	2	M29-C2-R1-BH	10/19/2010	10/22/2010 09:10 AM
L81NK	2	M29-C2-R1-BH DUP	10/19/2010	10/22/2010 09:10 AM
L81NM	3	M29-C2-R2-FH	10/19/2010	10/22/2010 09:10 AM
L81NN	4	M29-C2-R2-BH	10/19/2010	10/22/2010 09:10 AM
L81NP	5	M29-C2-R3-FH	10/19/2010	10/22/2010 09:10 AM
L81NQ	6	M29-C2-R3-BH	10/19/2010	10/22/2010 09:10 AM
L81NR	7	M29-C2-FB-FH	10/19/2010	10/22/2010 09:10 AM
L81NT	8	M29-C2-FB-BH	10/19/2010	10/22/2010 09:10 AM
L81N4	10	M26A-C2-R1-H2\$04	10/19/2010	10/22/2010 09:10 AM
L81N6	11	M26A-C2-R2-H2S04	10/19/2010	10/22/2010 09:10 AM
L81N7	12	M26A-C2-R3-H2S04	10/19/2010	10/22/2010 09:10 AM
L81N9	13	M26A-C2-FB-H2S04	10/19/2010	10/22/2010 09:10 AM
L81PV	14	M26A-DIH20-FB	10/19/2010	10/22/2010 09:10 AM
L81QL	16	M26A-C2-R1-NAOH	10/19/2010	10/22/2010 09:10 AM
L81QP	17	M26A-C2-R2-NAOH	10/19/2010	10/22/2010 09:10 AM
L81QQ	18	M26A-C2-R3-NAOH	10/19/2010	10/22/2010 09:10 AM
L81QR	19	M26A-C2-FB-NAOH	10/19/2010	10/22/2010 09:10 AM

#### Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

# **≡COM**

Project Location:	01/17/0	rest conditions:	FedEx Air Bill #: 8739 6577 0093/0/08/01/9	nalitical Parameters	All Metals	FH HNO ₃ rinse, C2, Run 1 All Metals	h Imp 1-3, C2, Run 1 All Metals	Imp 4, HNO ₃ rinse, C2, Run 1 Hg only	8N HCl rinse, C2, Run 1 Hg only			Filter, C2, Run 2 All Metals	FH HNO ₃ rinse, C2, Run 2 All Metals		Imp 4, HNO ₃ rinse, C2, Run 2 Hg only	8N HCl rinse, C2, Run 2 Hg only			Filter, C2, Run 3 All Metals	FH HNO ₃ rinse, C2, Run 3 All Metals	1 Imp 1-3, C2, Run 3 All Metals	Imp 4, HNO ₃ rinse, C2, Run 3 Hg only	8N HCl rinse, C2, Run 3 Hg only		metals performed during Condition 2 only.	analysis for all metals,	3. Target metals: arsenic, beryllium, cadmium, chromium, lead and mercury. Pade	Date: Received By (print): Date: Received by Lab	Time: Signature: Signature:	Date: Received By (print): Date: Analytical Laboratory Destination:	Time: Signature: Time: ASO Riverside Parkway	
1	Date Shipped:	Recovery: Fred Sanguedolce		Sample Matrix	Solid/Filter	0.1N HNO ₃	5% HNO-10%H2O2	0.1N HNO ₃	8N HCI			Solid/Filter	0.1N HNO ₃	5% HNO-J10%H2O2	0.1N HNO ₃	SN HCI			Solid/Filter	0.1N HNO ₃	5% HNO3/10%H2O2	0.1N HNO3	8N HCI		for metals performed	<ol><li>Separate front-half / back-half analysis for all metals.</li></ol>	etals: arsenic, berylliur	Relinquished By (print):	Signature;	Received By (print):	Signature:	
Norhite Corp.	2010 MACT CPT 60163411	Westford, MA	:t: Doug Roeck	Sample ID Code	M29-PF-C2-R1	M29-FHR-C2-R1	M29-BHIMP13-C2-R1	M29-IMP4-C2-R1	M29-HCI-C2-R1			M29-PF-C2-R2	M29-FHR-C2-R2	M29-BHIMP13-C2-R2	M29-IMP4-C2-R2	M29-HCI-C2-R2			M29-PF-C2-R3	M29-FHR-C2-R3	M29-BHIMP13-C2-R3	M29-IMP4-C2-R3	M29-HCI-C2-R3			2. Separate	3. Target m	(print): Date;	Haul			
Site of Program:	Type of Program.	Program Office:	Program Contact	Item	1	2	3 (4)	<b>þ</b>	5	9	7	8	6	10 M	11	12	13	14	15	16	17 M.	18	19	20	Field Notes/ Comments			Relinquished By (print):	Signature Ocelan	Received By (print):	Signature:	11

# **IICOM**

Site of	Site of Program:	Norliite Corp.	Sample Date: 10/19		Project Location:	Cohoes, NY	P.O. #:	10271ACM
Type of	Type of Program:	2010 MACT CPT	ğ	121/10	Laboratory:	TestAmerica		
Project #:	*	60163411	Shipper / Doug Roeck	<i>[2]</i>	Test Conditions:	C2 = Condition 2		•
Progran	Program Office:	Westford, MA	Recovery: Fred Sanguedolce	dolce				!
Program	Program Contact:	Doug Roeck		,	FedEx Air Bill #:	6739 6577	0810	0/20
Item	Sa	Sample ID Code	Sample Matrix	Sampl				Special Instructions
41	M29-1A	M29-IMP56-C2-R1	10% H ₂ SO ₄ / 4%KMnO ₄	Imp 5 & 6, C2, Run 1	ในก 1	Hg only		
42	M29-II	M29-IMP56-C2-R2	10% H ₂ SO ₄ / 4%KMnO ₄	Imp 5 & 6, C2, Run 2	kun 2	Hg only		
43	M29-II	M29-IMP56-C2-R3	10% H ₂ SO ₄ / 4%KMnO ₄	Imp 5 & 6, C2, Run 3	Run 3	Hg only		
44	M29-	M29-IMP56-FB	10% H ₂ SO ₄ / 4%KMnO ₄	4%KMnO4: 10%	4%KMnO4: 10% H2SO4, Field Blank	Hg only		100 mL
45						,		
46								
47								
48								
49								
20								
51								
52								
53				-				
54								
55								
56								
57								
58								
59								
09				-				
Field No	Field Notes/ Comments	1. Samplin	1. Sampling for metals performed during Condition 2 only.	ring Condition 2	only.			
		2. Separate	<ol><li>Separate front-half / back-half analysis for all metals.</li></ol>	ysis for all metal	¢;			
		3. Target metals: a	netals: arsenic, beryllium, (	admium, chrom	rsenic, beryllum, cadmium, chromium, lead and mercury.	•		Page / of /
Relinqui Douglas	Relinquished By (print): Douglas R. Roeck	Date: 10	Relinquished By (print):	Date:	Relinquished By (print):	): Date:	Received by Lab (print):	(print): Date:
Signature:	Buchala	ach Time:	Signature:	Time:	Signature:	Time;	Signature:	Time:
Raceive	Received By (print):		Received By (print):	Date:	Received By (print):	Date:	Analytical Labor	Analytical Laboratory Destination:
Signature:	je je	Time:	Signature:	Time:	Signature:	Time:	1estAmerica, Inc.   880 Riverside Parkway	c. arkway
4	Mely 1	1830				:	West Sacramento, CA 95605	West Sacramento, CA 95605
*							ון אונווי עסקפון אופ	idei II eid, (810)-3/4-4333

# IICOM

	Site of Piogram,	Norlite Carp.	//0/	9	Project Location:	Cohoes, NY	P.O. #.	10271ACM
Type of Program Project #:	gram:	2010 MACT CPT 60163411	Shipper! Doug Roack		Laboratory: Test Conditions:	C2 = Condition 2		
Program Office:	ffice:	Westford, MA	Recovery: Fred Sanguedolce	dolce			4	4
Program Contact		Daug Roeck			FedEx Air Bill #:	8739 6577 00	0043/0108	3/01/6/10/8
tem		Sample ID Code	Sample Matrix	Samp	Sample Description	Analitical Paran	neters	Special In
21	M25	M29-PF-FB	Solid/Filter	Fifter, Field Blank	¥	All Metals		
22	M29.	M29-FHR-FB	0.1N HNO ₃	0.1N HNO3, Field Blank	d Blank	All Metals		300 mL
23	M29-B1	M29-BHIMP13-FB	5% HNO3/10%H2O2	5%HNO3:10%	5%HNO3: 10% H2O2, Field Blank	All Metals		200 mL
24	M29	M29-HCI-FB	8N HCI	8N HCl rinse, Field Blank	eld Blank	Hg only		25 mL into 200 mL Di
25	M29-DI	M29-DIWATER-FB	Water	DI Water, Field Blank	Slank	All Metals		100 mL
26								
27	M29-	M29-AUDIT-1	Unknown	EPA Audit Sample #	Je#1	As per instructions		
28						-		
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
eld Notes	Field Notes/ Comments	1. Sampling for	ig for metals performed during Condition 2 only.	ring Condition 2	only.			
		2. Separate	<ol><li>Separate front-half / back-half analysis for all metals.</li></ol>	ysis for all metal	ທໍ			
		3. Target n	3. Target metals: arsenic, beryllum, cadmium, chromium, lead and mercury.	sadmium, chrom	ium, lead and mercu	۲۷.		Page 2 of 2
Relinquished By (pr Douglas R. Roeck	Relinquished By (print): Douglas R. Roeck	Date:	Refinquished By (print):	Date:	Relinquished By (print):	ıt): Date:	Received by Lab (print)	(print): Date:
Signaturg:	who pla	200 Time: 00	Signature:	Time:	Signature:	Time:	Signature;	Time:
Received By (print)	y (print):		Received By (print):	Date:	Received By (print):	Date:	Analytical Labor	Analytical Laboratory Destination:
ンまくむ に Signature:	บ่	Time.	Signature	Time.	Signature.	F G	TestAmerica, Inc.	
	1 July 3					ָ פּ	West Sacramento, CA 95605	dr. CA 95605
7	>	345					Attn: Robert We	Attn: Robert Weidenfeld, (916)-374-4333

# MOU

2010 Mort CPT   Date Shipped   Doug Reack   Test Conditions   Test Conditions   Test Conditions   Doug Reack   Doug Reack   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditions   Test Conditi	Site of Program:	Norlite Corp.	10/19	01/	Project Location:	E. Liverpool, OH	P.O. #: 10271ACM	
### Shipper   Doug Rosek   Test Conditions: C2 = Condition 2    Westford MA	Type of Program:	2010 MACT CPT	Date Shipped:	12/10	aboratory:	TestAmerica		
Westlord, MA   Recovery: Fred Sangle Metric   FedEx Air Bill #: 8734 6577   Doug Roeck   Sangle Metric   Sangle Description   Aralical Parameter   Aralical Parameter   MP14-C2-R2   0.1N H2504   Impirgers 1-4, C2, Run 2   Hydrogen Chloride   Hydrogen Chloride   CDH20   DI H20   DI H20   DI Wigter Fleid Blank   Hydrogen Chloride   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   CDH20   C	Project #:	60163411	Shipper/ Doug Roeck		est Conditions:	C2 = Condition 2		
No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.	Program Office:	Westford, MA	Recovery: Fred Sanguer					
MP14-C2-R2	Program Contact:	Doug Roeck	,	F	edEx Air Bill #:	8734 6577	0 / 0061	
MP14-C2-R1	Item	Sample ID Code	Sample Matrix	Sample	Description	Analitical Paran	neters Special Instructions	uctions
MP14-C2-R2 0.1N H2SO4 Impingers 1-4, C2, Run 2 Hydrogen Chloride  CH2SO4-FB 0.1N H2SO4 Impingers 1-4, C2, Run 3 Hydrogen Chloride  CH2SO4-FB 0.1N H2SO4 H2SO4 Field Blank Hydrogen Chloride & Ch Chloride  CH2SO4-FB 0.1N H2SO4 H2SO4 Field Blank Hydrogen Chloride & Ch Ch120-FB 0.1N H2SO4 Field Blank Hydrogen Chloride & Ch Ch120-FB Character Hydrogen Chloride & Ch Ch120-FB Character Hydrogen Chloride & Ch Ch120-FB Character Hydrogen Chloride and Chlorine performed during Condition 2 only.  2. Impingers 5 and 6 (for chlorine analysis) have been treated with sodium thiosulfate.  2. Impingers 5 and 6 (for chlorine analysis) have been treated with sodium thiosulfate.  3. Impingers 5 and 6 (for chlorine analysis) have been treated with sodium thiosulfate.  4. Sampling for hydrogen chloride analysis) have been treated with sodium thiosulfate.  5. Impingers 5 and 6 (for chlorine analysis) have been treated with sodium thiosulfate.  7. Sampling for hydrogen chloride analysis) have been treated with sodium thiosulfate.  8. Impingers 5 and 6 (for chlorine analysis) have been treated with sodium thiosulfate.  9. Impingers 5 and 6 (for chlorine analysis) have been treated with sodium thiosulfate.  14. Sampling for hydrogen chloride analysis) have been treated with sodium thiosulfate.  16.   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:   Pate:	1 M26	A-IMP14-C2-R1	0.1N H2SO4	Impingers 1-4. C2.	Run 1	Hydragen Chloride		
MP14-C2-R2	2							[ ] ]
### P14-C2-R3 0.1N H2SO4 Impingers 1-4, C2, Run 3 Hydrogen Chloride   CH2SO4-FB		A-IMP14-C2-R2	0.1N H2SO4	Impingers 1-4, C2,	Run 2	Hydrogen Chlonde		
Part	4							
**PARABITATION PROPERTY   H2SO4 Field Blank   Hydrogen Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride   Chloride		A-IMP14-C2-R3	0.1N H2SO4	Impingers 1-4, C2,	Run 3	Hydrogen Chloride		
**AVBITAT** Libitorgen Chloride Palank Hydrogen Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chloride & Chlorid	9							
### Control	7							
**ANUBITATE ***Line   Di H2O   Di Water Field Blank   Hydrogen Chlonde & Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chicago   Chi		6A-H2SO4-FB	0.1N H2SO4	H2SO4 Field Blan	<b>Y</b>	Hydrogen Chloride		
**************************************		6A-DIH2O-FB	DI H2O	DI Water Field Bla	nķ	Hydrogen Chlonde &	Chlorine	
*** **********************************	_							
1. Sampling for hydrogen chloride and chlorine performed during Condition 2 only. 2. Impingers 5 and 6 (for chlorine analysis) have been treated with sodium thiosulfate.  Date: Date: Relinquished By (print): Date: Relinquished By (print): Date: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Time: Signature: Time: Signature: Time: Signature: Time: Signature: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Time: Tim	]	26AnAUDITat		EPA Audit Sample	#=	Asquer Instructions.,	no audit samples	2
1. Sampling for hydrogen chloride and chlorine performed during Condition 2 only.  2. Impingers 5 and 6 (for chlorine analysis) have been treated with sodium thiosulfate.    Obte   Colorine analysis   Date:   Relinquished By (print):   Date:   Relinquished By (print):   Date:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Signature:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Time:   Ti	12						mondes	
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Signature:	Moch Tipe 100	Signature:	Time: Signature:	Time:	Signature:	Time:
Received By (print):	•	Received By (print):	Date: Received By (print):	vint): Date:	Analytical Laboral	Analytical Laboratory Destination:
Signature:	/ Time:	Signature:	Time: Signature:	Time:	880 Riverside Parkway	Parkwav
	sno!				West Sacrame	West Sacramento, CA 95605 Aftir Mr. Rohert Weidenfeld (ode), 277, 4222



# LOT RECEIPT CHECKLIST TestAmerica West Sacramento

CLIENT TECOW	PM RW LOG# 67752
LOT# (QUANTIMS ID) GOS 230 417	QUOTE# 87369 LOCATION PH-13
DATE RECEIVED 10-22-00 TIME RECEIVE	Checked (V) W 148
DELIVERED BY ☐ FEDEX ☐ ON TRAC ☐ GOLDENSTATE ☐ UPS ☐ GO-GETTE	☐ CLIENT RS ☐ OTHER
☐ TAL COURIER ☐ TAL SF ☐ VALLEY LO	GISTICS
CUSTODY SEAL STATUS ☐ INTACT ☐ BROKEN	₽n/a
CUSTODY SEAL #(S)	
SHIPPPING CONTAINER(S) TAL	NT DN/A
COC #(S)	
TEMPERATURE BLANK Observed: / V	Corrected:
SAMPLE TEMPERATURE - (TEMPERATURES ARE IN °C	•
Observed: Average Correct LABORATORY THERMOMETER ID:	
IR UNIT: #4 ☐ #5☐ ☐ OTHER	-NK-
	Initials Date
pH MEASURED YES AND LABELED BY	
LABELS CHECKED BYPEER REVIEW	
SHORT HOLD TEST NOTIFICATION	SAMPLE RECEIVING WETCHEM N/A VOA-ENCORES N/A
☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VE	RBAL & EMAIL DN/A
COMPLETE SHIPMENT RECEIVED IN GOOD CON APPROPRIATE TEMPERATURES, CONTAINERS, PRE	IDITION WITH N/A SERVATIVES
☐ CLOUSEAU ☐ TEMPERATURE EXCEEDE	D (2 °C − 6 °C)*1  N/A
	☐ NO COOLING AGENTS USED ☐ PM NOTIFIED
	Initials Date
Notes Dil unt receive M29.	-Aut-L
Notes Dil not receive M29.	ed & GOJ250427 -CN 0/5/10

*1 Acceptable temperature range for State of Wisconsin samples is  $\leq$ 4°C.

NEICVP1120E01



# DULLIE LUL ITIVETILUTY

THE LEADER IN ENVIRONMENTAL TESTING

Lot G05230417

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA*																				
VOAh*																				
AGB		1	<u> </u>					<u> </u>												
AGBs																				
250AGB									<u> </u>								1			
250AGBs	i -													<del> </del>						
250AGBn						<u> </u>														
500AGB																				<del></del>
AGJ		-		1		1.								•						<b></b>
500AGJ		1		ì		1	1		1		-							<del></del>		<u> </u>
250AGJ	1	Q	1	2	ı	2		U	3								<del>                                     </del>			
125AGJ		~			-			<b>\</b>												
CG1									<u> </u>			-								
500CGJ	_					<u> </u>			<del></del>	<del> </del>										
250CGJ																				
125CGJ				· · · · · · · · · · · · · · · · · · ·	<u> </u>															
PJ										1-	1									
PJn						<u> </u>				L		<u> </u>			<b></b>					
500PJ													<del></del>			1	1	-		7
500PJn																-				1
500PJna							-	i							· · · · · ·					i
500PJzn/na																				
250PJ													7	1					1	
250PJn				_									1/	-						
250PJna								<u> </u>												
250PJzri/na																				
Acetate Tube																		ı		
rCT	i																			
Encore							·					-								
Folder/filter								-												
PUF																				
Petri/Filter	l		(		1		[		1											
XAD Trap			,		1				1											
Ziploc																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

h = hydrochloric acid s = sulfuric acid na = sodium hydroxide n = nitric acid na = zinc acetateNumber of VOAs with air bubbles present / total number of VOA's

QA-185 5/05 EM

Page 3

NEICVP1120E01

# M29 Metals by ICPMS/CVAA

#### ARCOM, Inc

# Client Sample ID: M29-C2-R1-FH

# TOTAL Metals

Lot-Sample # Date Sampled			eceived:	: 10/22/10	Matrix:	AIR
PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #	.: 0309254					
Hg (FH)	2.7 RLA	0.090 Dilution Factor	<b>ug</b> or: 0.45	SW846 7470A MDL 0.022	11/05/10	L81NH1AG
Prep Batch #	.: 0313252					
Arsenic	1.4	0.30	ug	SW846 6020	11/04-11/10/10	L81NH1AA
		Dilution Facto	or: 1	MDL 0.075		
Beryllium	0.058 B	0.15	ug	SW846 6020	11/04-11/10/10	L81NH1AC
		Dilution Facto	or: 1	MDL 0.012	•	
Cadmium	4.2	0.15 Dilution Facto	ug or: 1	SW846 6020	11/04-11/10/10	L81NH1AD
Chromium	33.7	0.30	ug	SW846 6020	11/04-11/10/10	L81NHLAR
		Dilution Facto	or: 1	MDL 0.14	- ·	
Lead	43.2	0.15 Dilution Facto	ug or: 1,	SW846 6020 MDL 0.0099	11/04-11/10/10	L81NH1AF

RLA The reporting limit for this analyte is elevated due to sample dilution.

B Estimated result, Result is less than RL.

#### AECOM, Inc.

#### Client Sample ID: M29-C2-R1-BH

#### TOTAL Metals

Lot-Sample # Date Sampled			Received	: 10/22/10	Matrix:	AIR
PARAMETER	RESULT	REPORTING	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch # Hg (HNO3/H2O2)		1.1 Dilution Fact	<b>ug</b> or: 5.55	<b>SW846 7470A</b> MDL 0.27	11/01-11/02/10	L81NKłAG
Prep Batch # Hg (KMnO4)		0.10 Dilution Factor	<b>ug</b> or: 0.5	SW846 7470A MDL 0.024	11/01-11/02/10	L81NK1AH
Prep Batch # Hg (Empty)	: 0305400 0.11 B,G	0.19 Dilution Factor	<b>ug</b> or: 0.95	SW846 7470A MDL 0.047	11/01-11/02/10	L81NK1AJ
Prep Batch # Hg (HCl.)		0.10 Dilution Factor	ug or: 0.5	SW846 7470A MDL 0.024	11/05/10	L81NK1AK
Prep Batch #	. 0313258					
<del>-</del> -	0.082 B	0.30 Dilution Facto	ug or: 1	SW846 6020 MDL 0.075	11/08-11/10/10	L81NKIAA
Beryllium	ND	0.15 Dilution Facto	ug or: 1	SW846 6020	11/08-11/10/10	L81NK1AC
Cadmium	0.045 B	0.15 Dilution Factor	ug or: 1	SW846 6020	11/08-11/10/10	L81NKlad
Chromium	0.24 B	0.30 Dilution Factor	ug or: 1	SW846 6020 MDL 0.14	11/08-11/10/10	L81NK1AE
Lead	0.42 J	0.15 Dilution Facto	ug or: 1	SW846 6020 MDL 0.0099	11/08-11/10/10	L81NK1AF

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

# AECOM, Inc

# Client Sample ID: M29-C2-R2-FH

# TOTAL Metals

Lot-Sample # Date Sampled			eceived	: 10/22/10	Matrix:	AIR
PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch # Hg (FH)		0.24 Dilution Facto	_	SW846 7470A MDL 0.059	11/05/10	L81NM1AG
Prep Batch # Arsenic	: 0313252 1.3	0.30	-	SW846 6020	11/04-11/10/10	LBINMIAA
Beryllium	0.050 B	0.15 Dilution Facto		SW846 6020 MDL 0.012	11/04-11/10/10	L81NM1AC
Cadmium	4.8	0.15 Dilution Factor	ug r: 1	SW846 6020	11/04-11/10/10	L81NM1AD
Chromium	48.6	0.30 Dilution Factor	-	SW846 6020	11/04-11/10/10	L81nmlar
Lead	52.7	0.15 Dilution Factor	<b>ug</b> r: 1	SW846 6020	11/04-11/10/10	L81NMLAF

RLA The reporting limit for this analyte is elevated due to sample dilution.

B Estimated result. Result is less than RL.

# AECOM, Inc

# Client Sample ID: M29-C2-R2-BH

#### TOTAL Metals

Lot-Sample # Date Sampled	Matrix:	AIR								
		REPORTING	3		PREPARATION-	WORK				
PARAMETER	RESULT	LIMIT	UNITS	METHOD	ANALYSIS DATE	ORDER #				
Prep Batch #	- 0305398									
Hg (HNO3/H2O2)		1.1	ug	SW846 7470A	11/01-11/02/10	L81NN1AG				
	Dilution Fact	_	MDL 0.27							
Prep Batch #: 0305399										
Hg (KMnO4)	2.5	0.10	ug	SW846 7470A	11/01-11/02/10	Y.Q 7 MM1 A EF				
,		Dilution Fact	_	MDL 0.024	11/02/11/02/10	HOLIMITALL				
Prep Batch # Hg (Empty)		0.19		CW04C 74703	77/07 77/00/70					
ng (Mintro)	0.14 5,6	Dilution Fact	<b>ug</b> ດະ 0.93	SW846 7470A MDL 0.046	11/01-11/02/10	PRTMNTV				
		244402011 1400	0.93	1000						
Prep Batch #: 0309255										
Hg (HCl)	2.6	0.10	ug	SW846 7470A	11/05/10	T81NNTVK				
		Dilution Fact	or: 0.5	MDL 0.024						
Prep Batch #: 0313258										
Arsenic	0.076 B	0.30	ug	SW846 6020	11/08-11/10/10	L81NN1AA				
		Dilution Fact	or: 1	MDL 0.075						
Beryllium	ND	0.15	ug	SW846 6020	11/08-11/10/10	L81NN1AC				
		Dilution Fact	or: 1	MDL 0.012						
Cadmium	0.046 B	0.15	ug	SW846 6020	11/08-11/10/10	L81NN1AD				
		Dilution Fact	or: 1	MDL 0.011						
Chromium	5.2	0.30	ug	SW846 6020	11/08-11/10/10	L81NN1AE				
		Dilution Fact	or: 1	MDL 0.14						
Lead	0.32 J	0.15	ug	SW846 6020	11/08-11/10/10	L81NN1AF				
		Dilution Facto	or: 1	MDL 0.0099						

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

B Estimated result. Result is less than RL,

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

# AECOM, Inc

# Client Sample ID: M29-C2-R3-FH

# TOTAL Metals

Lot-Sample # Date Sampled	Matrix:	AIR				
PARAMETER	RESULT	REPORTII	NG UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #.	: 0309254 2.9 RLA	0.090 Dilution Fac	ug ctor: 0.45	<b>SW846 7470A</b> MDL 0.022	11/05/10	L81NP1AG
Prep Batch #. Arsenic	: 0313252 1.5	0.30 Dilution Fac	ug ctor: 1	SW846 6020	11/04-11/10/10	L81NP1AA
Beryllium	0.048 B	0.15 Dilution Fac	ug stor: 1	SW846 6020	11/04-11/10/10	L81NP1AC
Cadmium	5.4	0.15 Dilution Fac	üg stor: 1	SW846 6020	11/04-11/10/10	L81NPlAD
Chromium	29.0	0.30 Dilution Fac	ug ctor: 1	SW846 6020	11/04-11/10/10	L81NP1AR
Lead	65.9	0.15 Dilution Fac	ug stor: 1	SW846 6020	11/04-11/10/10	L81NP1AF

RLA The reporting limit for this analyte is elevated due to sample dilution.

B Estimated result. Result is less than RL.

#### Client Sample ID: M29-C2-R3-BH

#### TOTAL Metals

Lot-Sample # Date Sampled	Matrix:	AIR				
		REPORTING			PREPARATION-	WORK
PARAMETER	RESULT	<u> LIMIT</u>	UNITS_	METHOD	ANALYSIS DATE	ORDER #
Prep Batch # Hg (HNO3/H2O2)		1.2 Dilution Facto	ug r: 5.86	SW846 7470A MDL 0.29	11/01-11/02/10	L81NQ1AG
Prep Batch #	.= 0305399			· ,	•	
Hg (KMmO4)	0.89	0.10 Dilution Factor	<b>ug</b> r: 0.5	SW846 7470A MDL 0.024	11/01-11/02/10	L81NQ1AH
Prep Batch #	.: 0305400					
Hg (Empty)	0.10 B,G	0.20 Dilution Factor	<b>ug</b> r: 0.98	SW846 7470A MDL 0.048	11/01~11/02/10	Laiquiaj
Prep Batch #	: 0309255					
Hg (HCl)	3.9	0.10	ug	SW846 7470A	11/05/10	L81NQ1AK
		Dilution Factor	r: 0.5	MDL 0.024		
Prep Batch #	- 0212250					
Arsenic	ND	0.30	ug	SW846 6020	11/08-11/10/10	L81NO1AA
		Dilution Factor	_	MDL 0.075	, 00,0,0	
Beryllium	ND	0.15	ug	SW846 6020	11/08-11/10/10	L81NQ1AC
		Dilution Factor	r: 1	MDL 0.012		
Cadmium	ND	0.15	ug	SW846 6020	11/08-11/10/10	L81NQ1AD
		Dilution Factor	:: 1	MDL 0.011		
Chromium	ND	0.30	ug	SW846 6020	11/08-11/10/10	L81NQ1AE
		Dilution Factor	: 1	MDL: 0.14		
Lead	0.13 B,J	0.15	ug	SW846 6020	11/08-11/10/10	L81NQ1AF
		Dilution Factor	: 1	MDL 0.0099		

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

#### Client Sample ID: M29-C2-FB-FH

#### TOTAL Metals

Lot-Sample #...: G0J230417-007

Date Sampled...: 10/19/10

Date Received..: 10/22/10

Matrix..... AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #.	: 0309254					
Hg (FH)	ND	0.030	ug	SW846 7470A	11/05/10	L81NR1AG
		Dilution Fact	or: 0.15	MDL 0.0074		
Prep Batch #.	: 0313252					
Arsenic	ND	0.30	ug	SW846 6020	11/04-11/10/10	L81NR1AA
		Dilution Fact	or: 1	MDL 0.075	·	
Beryllium	ND	0.15	ug	SW846 6020	11/04-11/10/10	L81NR1AC
		Dilution Fact	or: 1	MDL 0.012		
Cadmium	0.043 B	0.15	ug	SW846 6020	11/04-11/10/10	L81NR1AD
		Dilution Fact	or: 1	MDL 0.011		
Chromium	0.84	0.30	ug	SW846 6020	11/04-11/10/10	L81NR1AE
		Dilution Facto	or: 1	MDL 0.14		
Lead	0.27	0.15	ug	SW846 6020	11/04-11/10/10	L81NR1AF
		Dilution Facto	or: 1	MDL 0.0099		

B Estimated result, Result is less than RL.

NOTE (S):

#### Client Sample ID: M29-C2-FB-BH

#### TOTAL Metals

Prep Batch #: Hg (HNO3/H2O2) 1	ND G 0305399 0.082 B	REPORTING 1.60 Dilution Factor of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of th	ug etor: 3	METHOD  SW846 7470A  MDL	PREPARATION- ANALYSIS DATE 11/01-11/02/10	L81NT1AG
Hg (HNO3/H2O2) 1 Prep Batch #:	ND G 0305399 0.082 B	Dilution Fac	ug	MDL 0.15 SW846 7470A		
Hg (HNO3/H2O2) 1 Prep Batch #:	ND G 0305399 0.082 B	Dilution Fac	ug	MDL 0.15 SW846 7470A		
_	0.082 B	0.10	ug	SW846 7470A		
_	0.082 B		_		11/01-11/02/10	T 0-1 kmm - 2 ***
_	0.082 B		_		11/01-11/02/10	T 0130012***
	0305400	Dilution Fac	etor: 0.5	1077		TOTALTAH
	0305400			MDL: 0.024		
Prep Batch #:						
Hg (Empty)	0.098 B,G	0.20	ug	SW846 7470A	11/01-11/02/10	L81NT1AJ
		Dilution Fac	tor: 1	MDL 0.049		
Prep Batch #:	0309255					
Hg (HCl)	<b>N</b> D	0.10	иg	SW846 7470A	11/05/10	L81NT1AK
		Dilution Fac	tor: 0.5	MDL 0.024		
Prep Batch #:	0313258					
Arsenic C	).13 B	0.30	ug	SW846 6020	11/08-11/10/10	L81NT1AA
		Dilution Fac	tor: 1	MDL 0.075		
Beryllium N	(D	0.15	ug	SW846 6020	11/08-11/10/10	L81NT1AC
		Dilution Fac	tor: 1	MDL 0.012		
Cadmium N	ID	0.15	ug	SW846 6020	11/08-11/10/10	L81NT1AD
		Dilution Fac	tor: 1	MDL 0.011		
Chromium N	<b>I</b> D	0.30	ug	SW846 6020	11/08-11/10/10	L81NT1AE
		Dilution Fac	tor: 1	MDL 0.14	·	
Lead 0	).24 J	0.15	ug	SW846 6020	11/08-11/10/10	L81NT1AF
		Dilution Fac	tor: 1	MDL 0.0099		
NOTE(S):						

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

## **QC DATA ASSOCIATION SUMMARY**

#### G0J230417

### Sample Preparation and Analysis Control Numbers

		ANALYTICAL	LEACH	PREP	
SAMPLE#	MATRIX	METHOD	BATCH #	BATCH #	MS RUN#
<del></del>	<del></del>	<del></del>		<del></del>	
001	AIR	SW846 6020		0313252	0313131
	AIR	SW846 7470A		0309254	
002	AIR	SW846 6020		0313258	0313134
	AIR	SW846 7470A		0305398	0314135
	AIR	SW846 7470A		0305399	
	AIR	SW846 7470A		0305400	
	AIR	SW846 7470A		0309255	
003	AIR	SW846 6020		0313252	0313131
003	AIR	SW846 7470A		0313252	0313131
	PLACE	DNOTO /4/OA		0309234	
004	AIR	SW846 6020		0313258	0313134
	AIR	SW846 7470A		0305398	0314135
	AIR	SW846 7470A		0305399	
	AJR	SW846 7470A		0305400	
	AIR	SW846 7470A		0309255	
005	AIR	CMO4C CO2O		0213050	0070404
003	AIR	SW846 6020		0313252	0313131
	AIR	SW846 7470A		0309254	
006	AIR	SW846 6020		0313258	0313134
	AIR	SW846 7470A		0305398	0314135
	AIR	SW846 7470A		0305399	
	AIR	SW846 7470A		0305400	
	AIR	SW846 7470A		0309255	
007	AIR	SW846 6020			000000
007	AIR	SW846 7470A		0313252	0313131
	AIK	5W040 /4/VA		0309254	
008	AIR	SW846 6020		0313258	0313134
	AIR	SW846 7470A		0305398	0314135
	AIR	SW846 7470A		0305399	
	AIR	SW846 7470A		0305400	
	AIR	SW846 7470A		0309255	

### METHOD BLANK REPORT

#### TOTAL Metals

Client Lot #	: G0J230417				Matr	ix AI	R
PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHO:		PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample # Hg (HNO3/H2O2)	ND	99 Prep Bat 0.20 Dilution Facto	ug		7470A	11/01-11/02/10	L66GD1AE
MB Lot-Sample # Hg (KMnO4)	ND	99 Prep Bai 0.20 Dilution Facto	ug		7470A	11/01-11/02/10	L9EC61AA
MB Lot-Sample # Hg (Empty)	ND	00 Prep Bat 0.20 Dilution Facto	ug		7470A	11/01-11/02/10	L9EC81AA
MB Lot-Sample # Hg (FH)	ND		ug		7470A	11/05/10	L9L1H1AA
MB Lot-Sample # Hg (HCl)	ND	_	ug		7470A	11/05/10	L9L1MLAA
MB Lot-Sample # Arsenic	ND	52 Prep Bat 0.30 Dilution Factor	ug	313252 SW846	6020	11/04-11/10/10	L9QPJ1CA
Beryllium	ND	0.15 Dilution Factor	ug r: 1	SW846	6020	11/04-11/10/10	L9QPJ1CC
Cadmium	ND	0.15 Dilution Factor	ug r: 1	SW846	6020	11/04-11/10/10	L9QPJ1CD
Chromium	ND	0.30 Dilution Factor	ug :: 1	SW846	6020	11/04-11/10/10	L9QPJ1CE
Lead	ND	0.15 Dilution Factor	ug c: 1	SW846	6020	11/04-11/10/10	L9QPJ1CF

(Continued on next page)

G0J230417

Test America West Sacramento (916) 373 - 5600

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#### METHOD BLANK REPORT

#### TOTAL Metals

Client Lot #...: G0J230417

Matrix.	-		-		-		-		:	AIR
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PARAMETER	RESULT	REPORTIN	IG UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample	#: GOK090000	-258 <b>Prep</b> B	Batch #:	0313258		
Arsenic	ND	0.30	ug	SW846 6020	11/08-11/10/10	L9QP71AA
		Dilution Fac	tor: 1			
Beryllium	ND	0.15	ug	SW846 6020	11/08-11/10/10	L9OP71AC
		Dilution Fac	tor: 1			
Cadmium	ND	0.15	ug	SW846 6020	11/08-11/10/10	L90P71AD
		Dilution Fac	tor: 1			
Chromium	ND	0.30	ug	SW846 6020	11/08-11/10/10	L9OP71AE
		Dilution Fac	•		. ,	<b>~</b>
Lead	0.032 B	0.15	uq	SW846 6020	11/08-11/10/10	L9OP71AF
		Dilution Fac	_		,, <b></b> ,	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

#### LABORATORY CONTROL SAMPLE DATA REPORT

#### TOTAL Metals

Lot-Sample #...: G0J230417

Matrix .... AIR

	SPIKE	MEASURE	D D	PERCNT				PREPARATION-	PREP
PARAMETER	AMOUNT	AMOUNT	UNITS	RECVRY	RPD	METHO	D	ANALYSIS DATE	BATCH #
Hg (HNO3/H20	1.00	1.00	ug	100		SW846	7470A	11/01-11/02/10	
	1.00	1.05	ug	105	4.9	SW846	7470A	11/01-11/02/10	0305398
		;	Dilution Fac	tor: 1					
Hg (KMn04)	1.00	1.00	ug	100		SW846	7470A	11/01-11/02/10	0305399
	1.00	1.05	ug	105	4.9	SW846	7470A	11/01-11/02/10	0305399
		:	Dilution Fac	etor: 1					
Hg (Empty)	1.00	1.00	ug	100		SW846	7470A	11/01-11/02/10	
	1.00	1.05	ug	105	4.9	SW846	7470A	11/01-11/02/10	0305400
		1	Dilution Fac	tor: 1					
Hg (FH)	1.00	1.02	ug	102		SW846	7470A	11/05/10	0309254
	1.00	0.940	ug	94	8.2	SW846	7470A	11/05/10	0309254
		1	Dilution Fac	tor: 1					
Hg (HCl)	1.00	1.02	ug	102		SW846	7470A	11/05/10	0309255
	1.00	0.940	ug	94	8.2	SW846	7470A	11/05/10	0309255
		1	Dilution Fac	tor: 1					
Arsenic	30.0	27.0	ug	90		SW846	6020	11/04-11/10/10	
	30.0	26.8	ug	89	0.83	SW846	6020	11/04-11/10/10	0313252
		I	Dilution Fac	tor: 1					
Beryllium	30.0	26.2	ug	87		SW846		11/04-11/10/10	
	30.0	26.3	ug	88	0.56	SW846	6020	11/04-11/10/10	0313252
		1	Dilution Fac	tor: 1					
Cadmium	30.0	27.2	ug	91		SW846		11/04-11/10/10	
	30.0	27.1	ug	90	0.32	SW846	6020	11/04-11/10/10	0313252
		I	Dilution Fac	tor: 1					
Chromium	30.0	27.2	ug	91		SWB46		11/04-11/10/10	
	30.0	26.9	ug	90	1.3	SW846	6020	11/04-11/10/10	0313252
		1	Dilution Fac	tor: 1					
Lead	30.0	28.1	ug	94		SW846	6020	11/04-11/10/10	0313252
	30.0	27.7	ug	92	1.4	SW846	6020	11/04-11/10/10	
		1	Dilution Fac	tor: 1 -					

(Continued on next page)

#### LABORATORY CONTROL SAMPLE DATA REPORT

#### TOTAL Metals

Lot-Sample #...: G0J230417

Matri	~			•	አፕፒ	

	SPIKE	MEASUREI	)	PERCNT				PREPARATION-	PREP
PARAMETER	AMOUNT	AMOUNT	UNITS	RECVRY	RPD	METHO	D	ANALYSIS DATE	BATCH #
Arsenic	30.0	26.0	ug	B6		SW846	6020	11/08-11/10/10	0313258
	30.0	24.6	ug	82	5.4	SW846	6020	11/08-11/10/10	0313258
		I	ilution Fa	ctor: 1					
Beryllium	30.0	25.5	ug	85		SW846	6020	11/08-11/10/10	0313258
	30.0	24.3	ug	81	5.0	SW846	6020	11/08-11/10/10	0313258
		Ī	ilution Fa	ctor: 1					
Cadmium	30.0	26.6	ug	89		SW846	6020	11/08-11/10/10	0313258
	30.0	25.3	uġ	84	5.0	SW846	6020	11/08-11/10/10	0313258
		D	ilution Fac	ctor: 1					
Chromium	30.0	30.0	ug	100		SW846	6020	11/08-11/10/10	0313258
	30.0	27.9	ug	93	7.2	SW846	6020	11/08-11/10/10	0313258
		r	ilucion Fac	ctor: 1					
Lead	30.0	29.1	ug	97		SW846	6020	11/08-11/10/10	0313258
	30.0	27.3	ug	91	6.2	SW846	6020	11/08-11/10/10	0313258
		D	ilution Fac	tor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### TOTAL Metals

Lot-Sample #...: G0J230417 Matrix...... AIR

	PERCENT	RECOVERY		RPD			DOWN DATE OF	DDDD
PARAME'TER	RECOVERY	LIMITS		LIMITS	METHO	חו	PREPARATION- ANALYSIS DATE	PREP-
Hg (HN03/H20		(86 - 110)	KID	HILLIA		7470A	11/01-11/02/10	
	105	(86 - 110)	4.9	(0-17)		7470A	11/01-11/02/10	
		Dilutio					,,,	
**- /***		(07)						
Hg (KMnO4)	100	(87 - 111)		(0.15)		7470A	11/01-11/02/10	
	105	(87 - 111) Dilutio			5W846	7470A	11/01-11/02/10	0305399
	•	DITUCI	DII FAU	COI: I				
Hg (Empty)	100	(85 - 111)			SW846	7470A	11/01-11/02/10	0305400
	105	(85 - 111)	4.9	(0-17)	SW846	7470A	11/01-11/02/10	
		Dilutio	on Fac	tor: 1				
Hg (FH)	102	(87 - 110)			SW846	7470A	11/05/10	0309254
,	94	(87 - 110)	8.2	(0-17)		7470A	11/05/10	0309254
		Dilutio				-	, ,	
Hg (HCl)	102	(86 - 110)			SW846	7470A	11/05/10	0309255
	94	(86 - 110)	8.2	(0-17)		7470A	11/05/10	0309255
		Dilutio					. ,	
Arsenic	90	(79 - 110)			SW846	6020	11/04-11/10/10	0313252
	89	(79 - 110)	0.83	(0-15)			11/04-11/10/10	
		Dilutio					,	
Beryllium	87	(70 - 110)			SW846	6020	11/04-11/10/10	0313252
•	88	(70 - 110)	0.56	(0-15)			11/04-11/10/10	
		Dilutio					, , ,	
Cadmium	91	(79 - 110)			SW846	6020	11/04-11/10/10	0313252
	90	(79 - 110)	0.32	(0-16)	SW846	6020	11/04-11/10/10	0313252
		Dilutio				•		
Chromium	91	(84 - 110)			SW846	6020	11/04-11/10/10	0313252
	90	(84 - 110)	1.3	(0-15)	SW846	6020	11/04-11/10/10	
		Dilutio	n fact	or: 1				
Lead	94	(86 - 110)			SW846	6020	11/04-11/10/10	0313252
	92	(86 - 110)	1.4	(0-15)	SW846	6020	11/04-11/10/10	
•		Dilutio	n Fact	or: 1				

(Continued on next page)

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### TOTAL Metals

Lot-Sample #...: G0J230417

Matrix.		70 1071

	PERCENT	RECOVERY RPD		PREPARATION- PREP-				
PARAMETER	RECOVERY	LIMITS RPD LIMITS	METHOD	ANALYSIS DATE BATCH #				
Arsenic	86	(79 - 110)	SW846 6020	11/08-11/10/10 0313258				
	82	(79 - 110) 5.4 (0-15)	SW846 6020	11/08-11/10/10 0313258				
		Dilution Factor: 1						
Beryllium	85	(70 - 110)	SW846 6020	11/08-11/10/10 0313258				
	81	(70 - 110) 5.0 (0-15)	SW846 6020	11/08-11/10/10 0313258				
Dilution Factor: 1								
Cadmium	89	(79 - 110)	SW846 6020	11/08-11/10/10 0313258				
	84	(79 - 110) 5.0 (0-16)	SW846 6020	11/08-11/10/10 0313258				
		Dilution Factor: 1						
Chromium	100	(84 - 110)	SW846 6020	11/08-11/10/10 0313258				
	93	(84 - 110) 7.2 (0-15)	SW846 6020	11/08-11/10/10 0313258				
		Dilution Factor: 1						
Lead	97	(86 ~ 110)	SW846 6020	11/08-11/10/10 0313258				
	91	(86 - 110) 6.2 (0-15)	SW846 6020	11/08-11/10/10 0313258				
		Dilution Factor: 1						

NOTE(S):

#### MATRIX SPIKE SAMPLE EVALUATION REPORT

#### TOTAL Metals

Client Lot to Date Sampled			Date Received: 10/22/10			Matrix AIR		
PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #		
MS Lot-Sampl Hg (HNO3/H20		0417-002 Prep E (86 - 110) (86 - 110) 0.62 Dilution Fac	(0-17)	SW846 7470A	11/01-11/02/10 11/01-11/02/10			
NOTE(S):								

#### MATRIX SPIKE SAMPLE DATA REPORT

#### TOTAL Metals

Client Lot #...: G0J230417

Date Sampled...: 10/19/10

Date Received..: 10/22/10

SAMPLE SPIKE MEASRD PERCNT PREPARATION- WORK

PARAMETER AMOUNT AMT AMOUNT UNITS RECVRY RPD METHOD ANALYSIS DATE ORDER #

MS Lot-Sample #: G0J230417-002 Prep Batch #...: 0305398

Hg (HNO3/H2O2)

29.9 5.55 35.6 ug 103 SW846 7470A 11/01-11/02/10 L81NK1AL 29.9 5.55 35.9 ug 107 0.62 SW846 7470A 11/01-11/02/10 L81NK1AM

Dilution Factor: 5.55

NOTE(S):

#### SAMPLE DUPLICATE EVALUATION REPORT

#### Metals

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Arsen	ic					SD Lot-Sample #:	<del></del>	
	1.4	1.4	. ug	2.2	(0-15)	SW846 6020	11/04-11/10/10	0313252
			Dilution Fac	tor: 1				
Beryl	Lium					SD Lot-Sample #:	G0J230417-001	
	0.058 B	0.056 B	ug	2.8	(0-15)	SW846 6020	11/04-11/10/10	0313252
			Dilution Fac	tor: 1				
Cadmi	am					SD Lot-Sample #:	G0J230417-001	
	4.2	4.2	ug	1.2	(0-16)	SW846 6020	11/04-11/10/10	0313252
			Dilution Fac	tor: 1				
Chromi	Lum					SD Lot-Sample #:	G0J230417-001	
	33.7	33.0	ug	2.2	(0-15)	SW846 6020	11/04-11/10/10	0313252
			Dilution Fact	tor: 1				
Lead						SD Lot-Sample #:	G0J230417-001	
	43.2	42.1	ug	2.6	(0-15)	SW846 6020	11/04-11/10/10	0313252
			Dilution Fact	tor: 1				

#### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

#### SAMPLE DUPLICATE EVALUATION REPORT

#### Metals

Client Lot #...: G0J230417 Work Order #...: L81NK-SMP L81NK-DUP

Matrix..... AIR

Date Sampled...: 10/19/10 Date Received..: 10/22/10

	DUPLICATE			RPD		PREPARATION-	PREP
PARAM RESULT	RESULT	UNITS	RPD	LIMIT	METHOD	ANALYSIS DATE	BATCH #
Arsenic					SD Lot-Sample #:	G0J230417-002	
0.082 B	ND	ug	11	(0-15)	SW846 6020	11/08-11/10/10	0313258
		Dilution Fac	tor: 1				
Beryllium					SD Lot-Sample #:	G0J230417-002	
ND	ZUZ	ug	0	(0-15)	SW846 6020	11/08-11/10/10	0313258
		Dilution Fac	tor: 1				
Cadmium					SD Lot-Sample #:	G0J230417-002	
0.045 B	0.046 B	ug	0.89	(0-16)	•	11/08-11/10/10	0313258
		Dilution Fac	tor: 1				
Chromium					SD Lot-Sample #:	G0J230417-002	
0.24 B	0.28 B	ug	16	(0-15)		11/08-11/10/10	0313258
		Dilution Fac	tor: 1				
Lead					SD Lot-Sample #:	G0J230417-002	
0.42 J	0.42	ug	0,64	(0-15)	SW846 6020	11/08-11/10/10	0313258
		Dilution Fac		,,		,,,,,	

#### NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

# HCI/Chlorine by M26A

### Client Sample ID: M26A-C2-R1-H2S04

#### General Chemistry

Lot-Sample #...: G0J230417-010

Work Order #...: L81N4

Matrix..... AIR

Date Sampled...: 10/19/10

Date Received..: 10/22/10

PREPARATION- PREP

PARAMETER

RESULT

UNITS

METHOD

ANALYSIS DATE

BATCH #

Hydrochloric acid

94.3 Q

3.3 mg

Dilution Factor: 6.5

CFR60A 26A

MDL..... 1.7

11/05/10

0310123

NOTE (S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

SAMPLE VOLUME = 650 ML

#### Client Sample ID: M26A-C2-R2-H2S04

#### General Chemistry

Lot-Sample #...: G0J230417-011

Work Order #...: L81N6

Matrix..... AIR

Date Sampled...: 10/19/10

Date Received..: 10/22/10

PREPARATION-PREP ANALYSIS DATE

PARAMETER

RESULT

UNITS

METHOD

MDL..... 3.2

BATCH #

Hydrochloric acid

177 Q

RL 6.5 mg Dilution Factor: 12.6

CFR60A 26A

11/05/10

0310123

NOTE (S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

SAMPLE VOLUME = 630 ML

#### Client Sample ID: M26A-C2-R3-H2S04

#### General Chemistry

Lot-Sample #...: G0J230417-012

Work Order #...: L81N7

Matrix..... AIR

Date Sampled...: 10/19/10

Date Received..: 10/22/10

PREPARATION-PREP

PARAMETER Hydrochloric acid RESULT 182 Q

UNITS шg

<u>ME</u>THOD CFR60A 26A ANALYSIS DATE 11/05/10

BATCH # 0310123

Dilution Factor: 13.2

RL

6.8

MDL..... 3.4

NOTE(S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

SAMPLE VOLUME = 660 ML

#### Client Sample ID: M26A-C2-FB-H2S04

#### General Chemistry

Lot-Sample #...: G0J230417-013

Work Order #...: L81N9

Matrix.... AIR

Date Sampled...: 10/19/10

Date Received..: 10/22/10

PREPARATION-PREP

PARAMETER

RESULT

UNITS

METHOD

ANALYSIS DATE

BATCH #

Hydrochloric acid

ND G

0.51 mg

Dilution Factor: 1

RL

CFR60A 26A

MDL..... 0.26

11/05/10

0310123

NOTE (S):

RL Reporting Limit

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

SAMPLE VOLUME = 200 ML

#### ARCOM, Inc

#### Client Sample ID: M26A-DIH20-FB

#### General Chemistry

Lot-Sample #...: G0J230417-014

Work Order #...: L81PV

Matrix..... AIR

Date Sampled...: 10/19/10

Date Received..: 10/22/10

PARAMETER Chlorine	RESULT ND	UNITS 0.20 mg		METHOD CFR60A 26A	PREPARATION- ANALYSIS DATE 11/10/10	PREP BATCH # 0315326	
	Di	lution Fact	or: 0.2	MDL 0.050			
Hydrochloric acid	ND Di	0.10 lution Fact	mg or: 0.2	CFR60A 26A MDL 0.051	11/06/10	0310123	

NOTE (S):

RL Reporting Limit

SAMPLE VOLUME = 200 ML

#### Client Sample ID: M26A-C2-R1-NAOH

#### General Chemistry

Lot-Sample #...: G0J230417-016

Work Order #...: L81QL

Matrix..... AIR

Date Sampled...: 10/19/10

Date Received..: 10/22/10

PREPARATION- PREP
ANALYSIS DATE BATCH #

PARAMETER

RESULT

RL

0.28

Dilution Factor: 0.28

UNITS

METHOD

Chlorine

1.5

mg

CFR60A 26A

MDL..... 0.070

11/10/10

0315326

NOTE(S):

RL Reporting Limit

Sample Volume= 280ml

#### Client Sample ID: M26A-C2-R2-NAOH

#### General Chemistry

Lot-Sample #...: G0J230417-017

Work Order #...: L81QP

Matrix..... AIR

Date Sampled...: 10/19/10

Date Received..: 10/22/10

PREPARATION- PREP

PARAMETER

RESULT

UNITS

METHOD

ANALYSIS DATE

BATCH #

Chlorine

1 7

0.28 mg Dilution Factor: 0.28 CFR60A 26A

MDL..... 0.070

11/10/10

0315326

NOTE(S):

RL Reporting Limit

Sample Volume = 280ml

Norlite, LLC

Cohoes, New York

### Client Sample ID: M26A-C2-R3-NAOH

#### General Chemistry

Lot-Sample #...: G0J230417-018

Work Order #...: L81QQ

Matrix..... AIR

Date Sampled...: 10/19/10

Date Received..: 10/22/10

PREPARATION-PREP

PARAMETER Chlorine

RESULT 1.4

UNITS RL 0.28 щg

METHOD CFR60A 26A ANALYSIS DATE 11/10/10

BATCH #

Dilution Factor: 0.28

MDL....: 0.070

0315326

NOTE(S):

RL Reporting Limit

Sample Volume=280ml

Norlite, LLC

Cohoes, New York

#### Client Sample ID: M26A-C2-FB-NAOH

#### General Chemistry

Lot-Sample #...: G0J230417-019

Work Order #...: L81QR

Matrix..... AIR

Date Sampled...: 10/19/10

Date Received ..: 10/22/10

PREPARATION-PREP

PARAMETER Chlorine

RESULT ND

UNITS RL0.20 mg

METHOD CFR60A 26A ANALYSIS DATE BATCH # 11/10/10

0315326

Dilution Factor: 0.2

MDL..... 0.050

NOTE(S):

RL Reporting Limit Sample Volume=200ml

# QC DATA ASSOCIATION SUMMARY

G0J230417

### Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
010	AIR	CFR60A 26A		0310123	0310065
011	AIR	CFR60A 26A		0310123	0310065
012	AIR	CFR60A 26A		0310123	0310065
013	AIR	CFR60A 26A		0310123	0310065
014	AIR AIR	CFR60A 26A CFR60A 26A		0310123 0315326	0310065 0315207
016	AIR	CFR60A 26A		0315326	0315207
017	AIR	CFR60A 26A		0315326	0315207
018	AIR	CFR60A 26A		0315326	0315207
019	AIR	CFR60A 26A		0315326	0315207

#### METHOD BLANK REPORT

#### General Chemistry

Client Lot #...: G0J230417

Matrix..... AIR

PARAMETER	RESULT	REPORTING LIMIT UNITS		METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #	
Chlorine	ND	Work Order 1.0 Dilution Fact	#: L9W3D1AA mg tor: 1	MB Lot-Sample #: CFR60A 26A	G0K110000-326 11/10/10	0315326	
Hydrochloric acid	ND	Work Order 0.51 Dilution Fact	#: L9NHX1AA mg cor: 1	MB Lot-Sample #: CFR60A 26A	G0K060000-123 11/05/10	0310123	
NOTE(S)							

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### LABORATORY CONTROL SAMPLE DATA REPORT

#### General Chemistry

Client Lot #...: G0J230417

Matrix..... AIR

PARAMETER Chlorine	SPIKE AMOUNT	MEASUR AMOUNT	UNITS		METHOD DIAC LCS Lot-Sampl	PREPARATION- ANALYSIS DATE e#: GOK110000-3	
	25.0	24.7	mg	99	CFR60A 26A	11/10/10	0315326
			Dilution Facto	r: 1			
Hydrochloric	acid		Work Order	#: L9NHX	HAC LCS Lot-Sample	e#: G0K060000-1	.23
	25.7	25.6	mg	100	CFR60A 26A	11/05/10	0310123
			Dilution Facto	r: l	•		
•							

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### General Chemistry

Client Lot #...: G0J230417

Matrix..... AIR

<u>PARAMETER</u> Chlorine	PERCENT RECOVERY	RECOVERY  LIMITS METHOD  Work Order #: L9W3DlAC  (90 - 110) CFR60A 26A  Dilution Factor: 1	PREPARATION- PREP ANALYSIS DATE BATCH # LCS Lot-Sample#: GOKil0000-326 11/10/10 0315326
Hydrochloric ac	id 100	Work Order #: L9NHX1AC (90 - 110) CFR60A 26A Dilution Factor: 1	LCS Lot-Sample#: G0K060000-123 11/05/10 0310123

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### MATRIX SPIKE SAMPLE DATA REPORT

#### General Chemistry

Client Lot #...: G0J230417

Matrix..... AIR

Date Sampled...: 10/19/10

Date Received..: 10/22/10

	SAMPLE	SPIKE	MEASRD		PERCNT			PREPARATION-	PREP
PARAMETER	TRUOMA	AMT	AMOUNT	UNITS	RECVRY	RPD	METHOD	ANALYSIS DATE	BATCH #
Chlorine			WO#:	L81QL1AC-MS	/L81QL1	AD-MSI	D MS Lot-Samp	le #: G0J230417	-016
•	1.5	2.80	4.08	mg	93		CFR60A 26A	11/10/10	0315326
	1.5	2.80	4.11	mg	94	0.80	CFR60A 26A	11/10/10	0315326
			Dilut	ion Factor: 1					
Hydrochlo	ric acid		WO#:	L81N41AC-MS	/L81N412	AD-MSI	O MS Lot-Samp	le #: G0J230417	-010
	94.3	66.8	156	mg	93		CFR60A 26A	11/05/10	0310123
	94.3	66.8	156	mg	92	0.20	CFR60A 26A	11/05/10	0310123
			Diluti	ion Factor: 6.5					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Norlite, LLC

#### MATRIX SPIKE SAMPLE EVALUATION REPORT

#### General Chemistry

Client Lot #...: G0J230417

Date Sampled...: 10/19/10 Date Received..: 10/22/10

Matrix..... AIR

	PERCENT	RECOVERY	RPD	PREPARATION- PREP
PARAMETER	RECOVERY	LIMITS RP	LIMITS METHOD	ANALYSIS DATE BATCH #
Chlorine		WO#: L8	LQL1AC-MS/L81QL1AD-MSD	MS Lot-Sample #: G0J230417-016
	93	(75 - 125)	CFR60A 26A	11/10/10 0315326
	94	(75 - 125) 0.	30 (0-20) CFR60A 26A	11/10/10 0315326
		Dilution	Factor: 1	
Hydrochloric	acid	WO#: L8	LN41AC-MS/L81N41AD-MSD	MS Lot-Sample #: G0J230417-010
	93	(75 - 125)	CFR60A 26A	11/05/10 0310123
	92	(75 - 125) 0.3	20 (0-20) CFR60A 26A	11/05/10 0310123
		Dilution	Factor: 6.5	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

AECOM Environment

Appendix G

**Sample Calculations** 

Facility	y	Norlite ( Cohoes Kiln I	, NY		Job No			63411 1AR - 20	
Run		PT Re			Date _ Calc/R			D. Roed	
agii .		RT-RS		De IPCOL		eview			
	<u></u>	\ / - \ / ·	( , , , , ,		・ E CALCULA	TIONS	<b>S</b>		
									,
Particu	ılate I:	sokinetic Sa	mpling						
I.	Calc	ulations for	stack volum	e and Isoki	netic Ratio				
	Time	Dry G Meter	ft ³ ∆F	>,	Orifice ΔH, in. H ₂ O	Dry ( Temp In		Stack Static Pressure in. H ₂ O	Stack Temp °F
	Т	VM	ΔΡ	•	PM	TMI	TMO	PST	TS
	1. 2. 3. 4. 4A.	PB = Barom TT = Net Sa VM = VM fir VML = Use LI = Leak ra TLI = Total t	only if any fin te after any g ime of sampl	e, inches H , minutes I = Sample lal or interm liven sampli ling period il	g Gas Volume, lediate leak cl ing period, cfi n which leak ( ).02) TL2 + (L	heck ra m occurr	ate is ove ed, min.		1
	5.		ge Dry Gas T	•	e at Meter, °F			=	40.0 °F
	6.	PM = Avera	ge Orifice Pro	essure Drop	o, inches H ₂ C	)			
			PM = Avg.	ΔН			=_/,	,35 	; = <u>0.09%</u> in. Hg
	7.	Volume of d	ry gas sampl	led at stand	ard condition	s, dscf	a		
•		VMSTD =	528(Y)(VM) 29.92	$(PB + \frac{PA}{13})$	<u>e)</u>	Y = ( Y = _	dry gas n <i>O.983</i>	neter calibrat	tion factor : <u>/21.178</u> tt ³
	8.	VW = Total		ted = gm H × <i>AD tra</i>	20 Silica gel	+ mL l	mp. H ₂ O	) =	. 384.4 
	9.	Volume of w	•		onditions, sc	łр			
		VW gas = 0.	.04715 x VW					=	. <u>18.124</u> ft ³

PageNorlite, LLOF 3
Conoes, New York

# Run No. C1RT-R2 (PCDDs /PCDFs) Job No. 6016 3411 Date 30-MAR-2011

#### Percent moisture in stack gas

$$\% M = \frac{100 \times VW \text{ gas}}{VMSTD + VW \text{ gas}}$$

= /3.0 %

#### Mole fraction of dry gas (dimensionless)

$$MD = \frac{100-\%M}{100} =$$

_ 0.8699

#### Molecular weight of dry stack gas

MWD = 
$$\left( \%CO_2 \times \frac{44}{100} \right) + \left( \%O_2 \times \frac{32}{100} \right) + \left[ (\%CO + \%N_2) \times \frac{28}{100} \right] = \frac{29.35}{100}$$
 lb/lb mole dry

#### 12A. %EA = %Excess Air =

### Molecular weight of wet stack gas

$$MW = MWD \times MD + 18 (1-MD)$$

= <u>27.87</u> lb/lb mole wet

14. AS = Stack Area, square inches 
$$48.0 - in$$
.

Circular, = 
$$\left(\frac{\text{stack diameter}}{2}\right)^2$$
  $\pi$ 

= 1,809.6 sq. in.

Rectangular, = Length x width

# PS = Stack Pressure, absolute, inches Hg = PB±AV PST

PST = Stack static pressure

PST = Stack static pressure  
PST in. Hg = 
$$\frac{\text{PST in. H}_2\text{O}}{13.6}$$

= 0.07 in. Hg

= 30.27 in. Ha

_ /3/.0 °F

Run No. CIRT-R2 (PCDDs/PCDFs) Job No. 60163411

Date - 30-144R-2011

17. SDEAV = 
$$(\sqrt{\Delta P})_{AV} \times \sqrt{TS_{AV} + 460}$$

Stack gas velocity at stack conditions, afpm

$$VS = 5130^{\circ} \times Cp \times SDE_{AV} \times \left[ \frac{1}{PS \times MW} \right]^{1/2} = afpm$$

$$Cp = pitot tube coefficient$$
  
 $Cp = 0.84$ 

Stack gas volumetric flow rate at stack conditions, actim^d 19.

$$Q_a = \frac{VS \times AS}{144}$$

Stack gas volumetric flow rate at standard conditions, dscfme 20.

$$Q_s = \frac{Q_a \times 528 \times MD \times PS}{(29.92)(TS_{AV} + 460)}$$

Percent isokinetics 21.

% I = 
$$\frac{1,039^{1} \times (TS_{AV} + 460) \times VMSTD}{VS \times TT \times PS \times MD \times (DN)^{2}}$$

$$c_{5130} = 85.5$$
  $\frac{ft}{sec}$   $\left[ \frac{\text{(lb/lb mole)(in. Hg)}}{\text{(°R)(in. H2O)}} \right] \times 60 \text{ sec/min}$ 

$$\frac{29.92 \text{ in Hg}}{1039} = \frac{144 \text{ in.}^2}{528 \text{ Deg R}} \times \frac{4}{112} \times \pi \times 100$$

^aDry standard cubic feet at 68°F (528R) and 29.92 in. Hg.

bStandard conditions at 68°F (528R) and 29.92 in. Hg.

dActual cubic feet per minute

^eDry standard cubic feet per minute at 68°F (528R) and 29.92 in. Hg.

### Sample Calculation - PCDD / PCDF Emissions - For Comparison to MACT Standard Run # C1RT-R2 11-Jan-11

<u>Parameter</u>	<u>Symbol</u>	<u>Units</u>	<u>Value</u>	<u>Equation</u>				
Actual Volume Metered	Vm	dcf	115.401	Direct measurement				
Meter Box Calib. Factor	Υ		0.982	Direct measurement				
Barometric Pressure	Pb	in. Hg	30.20	Direct measurement				
Meter Box Pressure	DH	in. w.c.	1.35	Direct measurement				
Meter Box Pressure	DH	in. Hg	0.0996	DH (in. Hg) = DH (in. w.c.) / 13.6				
Meter Box Temperature	Tm	°F	40.0	Direct measurement				
Gas Sample Volume	SV	dscf	121.178	$SV = [(Vm) \times (Y) \times (528) \times (DH + Pb)] / [(29.92) \times (Tm + 460)]$				
Gas Sample Volume	SV	m ³	3.431	SV = [(SV, dscf) / (35.314)]				
2,3,7,8-TCDD Detected Front Half	FH	pg	(1.80)	Lab Result (ND, therfore treat as zero)				
2,3,7,8-TCDD Detected Back Half	вн	pg	6.08	Lab Result				
Total 2,3,7,8-TCDD Detected	DF total	pg	6.08	DF total = FH + BH				
Toxic Equivalency for 2,3,7,8-TCDD	TEF		1.00	Toxic Equivalency Factor				
2,3,7,8-TCDD Concentration (TEQ)	DF conc	ng/m³	1.8E-03	DF conc = $[(DF total) \times (TEF)] / [(SV, m3) \times (1000)]$				
(Perform the same calculation for all 17 PCDD/PCDF congeners and sum the results.)								

Conversion Factors Used:	<u>Units</u>	<u>Value</u>
Specific Gravity of Mercury		13.6
Standard Temperature	°R	528
Standard Pressure	in. Hg	29.92
Metric Conversion	ft³ / m³	35.314
Mass Conversion	pg / ng	1,000

# Sample Calculation - PCDD / PCDF Emissions - For Risk Assessment Run # C1RT-R2 11-Jan-11

<u>Parameter</u>	<u>Symbol</u>	<u>Units</u>	<u>Value</u>	<u>Equation</u>
Actual Volume Metered	Vm	dcf	115.401	Direct measurement
Meter Box Calib. Factor	Υ		0.982	Direct measurement
Barometric Pressure	Pb	in. Hg	30.20	Direct measurement
Meter Box Pressure	DH	in. w.c.	1.35	Direct measurement
Meter Box Pressure	DH	in. Hg	0.0996	DH (in. Hg) = DH (in. w.c.) / 13.6
Meter Box Temperature	Tm	°F	40.0	Direct measurement
Gas Sample Volume	SV	dscf	121.178	$SV = [(Vm) \times (Y) \times (528) \times (DH + Pb)] / [(29.92) \times (Tm + 460)]$
Stack Gas Flowrate	Qs	dscfm	30,910	See separate 3-page calculation for all C1RT-R2 parameters
2,3,7,8-TCDD Detected Front Half	FH	pg	1.80	Lab Result (ND, but treat as actual number)
2,3,7,8-TCDD Detected Back Half	вн	pg	6.08	Lab Result
Total 2,3,7,8-TCDD Detected	DF total	pg	7.88	DF total = FH + BH
2,3,7,8-TCDD Emission Rate	DF emiss	g/sec	3.4E-11	DF emiss = $[(DF total) \times (Qs)] / [(SV, dscf) \times (1.0 E+12) \times (60)]$
(D f 4      - 4  f	-1147 DODE	VOARE		

(Perform the same calculation for all 17 PCDD/PCDF congeners.

Results are treated individually in any subsequent risk assessment.)

Conversion Factors Used:	<u>Units</u>	<u>Value</u>
Specific Gravity of Mercury	44.44	13.6
Standard Temperature	°R	528
Standard Pressure	in. Hg	29.92
Mass Conversion	pg / g	1.0 E+12
Time Conversion	sec / min	60

# Sample Calculations - Total Low Volatile Metal (LVM) Input C2-R2 19-Oct-10

<u>Parameter</u>	Symbol <u>Units</u>	<u>rameter</u>	<u>Value</u>	<u>Equation</u>
LLGF Feed Rate	LLGF fr gpm	GF Feed Rate	10.2	Direct measurement by Norlite
LLGF Density	LLGF den g/cc	GF Density	1.0754	Lab Result
Shale Feed Rate	SH fr tph	nale Feed Rate	22.8	Direct measurement by Norlite
Arsenic (As) Conc. in LLGF	As ligfconc mg/kg	senic (As) Conc. in LLGF	37.3	Lab Result
As Conc. in Shale	As shoone mg/kg	Conc. in Shale	12.0	Lab Result
As Feed Rate in LLGF	As ligf fr lb/hr	Feed Rate in LLGF	0.205	As ligf fr = (LLGF fr) x (8.34) x (LLGF den) x (60) x (1 E-06) x (As ligfconc)
As Feed Rate in Shale	As sh fr lb/hr	Feed Rate in Shale	0.545	As sh fr = $(SH fr) \times (2,000) \times (1 E-06) \times (As shoonc)$
Total Arsenic Input	As in lb/hr	otal Arsenic Input	0.75	As in = $(As llgf fr) + (As sh fr)$
Beryllium (Be) Conc. in LLGF	Be llgfconc mg/kg	eryllium (Be) Conc. in LLGF	0.56	Lab Result
Be Conc. in Shale	Be shaleconc mg/kg	Conc. in Shale	1.90	Lab Result
Be Feed Rate in LLGF	Be ligf fr lb/hr	Feed Rate in LLGF	0.003	Be ligf fr = (LLGF fr) $x$ (8.34) $x$ (LLGF den) $x$ (60) $x$ (1 E-06) $x$ (Be ligfconc)
Be Feed Rate in Shale	Be ligf sh lb/hr	Feed Rate in Shale	0.087	Be sh fr = (SH fr) x (2,000) x (1 E-06) x (Be shconc)
Total Beryllium Input	Be in lb/hr	otal Beryllium Input	0.090	Be in = (Be llgf fr) + (Be sh fr)
Chromium (Cr) Conc. in LLGF	Cr llgfconc mg/kg	romium (Cr) Conc. in LLGF	490	Lab Result
Cr Conc. in Shale	Cr shaleconc mg/kg	Conc. in Shale	64.7	Lab Result
Cr Feed Rate in LLGF	Cr ligf fr lb/hr	Feed Rate in LLGF	2.69	Cr ligf fr = (LLGF fr) x (8.34) x (LLGF den) x (60) x (1 E-06) x (Cr ligfconc)
Cr Feed Rate in Shale	Cr ligf sh lb/hr	Feed Rate in Shale	2.95	Cr sh fr = $(SH fr) x (2,000) x (1 E-06) x (Cr shconc)$
Total Chromium Input	Cr in lb/hr	otal Chromium Input	5.64	Cr in = (Cr llgf fr) + (Cr sh fr)
Total LVM Feed Rate	LVM fr lb/hr	tal LVM Feed Rate	6.48	LVM fr = (As in) + (Be in) + (Cr in)
Total Pumpable LVM Feed Rate	PLVM fr lb/hr	ital Pumpable LVM Feed Rate	2.90	PLVM fr = (As llgf fr) + (Be llgf fr) + (Cr llgf fr)
Conversion Factors Used:	<u>Units</u>	onversion Factors Used:	<u>Value</u>	
Density of Water	lb/gal	ensity of Water	8.34	
Time Conversion	min/hr	· ·	60	
Weight Conversion	mg/g	eight Conversion	1,000	
Weight Conversion	g/kg	<del>-</del>	1,000	
Weight Conversion	lb/ton	<del>-</del>	2,000	
As Conc. in Shale As Feed Rate in LLGF As Feed Rate in Shale Total Arsenic Input Beryllium (Be) Conc. in LLGF Be Conc. in Shale Be Feed Rate in LLGF Be Feed Rate in Shale Total Beryllium Input Chromium (Cr) Conc. in LLGF Cr Conc. in Shale Cr Feed Rate in LLGF Cr Feed Rate in LLGF Cr Feed Rate in Shale Total Chromium Input Total LVM Feed Rate Total Pumpable LVM Feed Rate Conversion Factors Used:  Density of Water Time Conversion Weight Conversion	As shoonc mg/kg As llgf fr lb/hr As sh fr lb/hr As in lb/hr Be llgfconc mg/kg Be shaleconc mg/kg Be llgf fr lb/hr Be llgf sh lb/hr Cr llgfconc mg/kg Cr shaleconc mg/kg Cr shaleconc mg/kg Cr llgf fr lb/hr Cr llgf sh lb/hr Cr in lb/hr LVM fr lb/hr PLVM fr lb/hr  Units  lb/gal min/hr mg/g g/kg	George Conc. in Shale Feed Rate in LLGF Feed Rate in Shale Otal Arsenic Input Oryllium (Be) Conc. in LLGF Feed Rate in LLGF Feed Rate in Shale Otal Beryllium Input Oronc. in Shale Feed Rate in LLGF Feed Rate in LLGF Feed Rate in LLGF Feed Rate in LLGF Feed Rate in LLGF Feed Rate in LLGF Feed Rate in LLGF Feed Rate in Shale Otal Chromium Input Otal LVM Feed Rate Otal Pumpable LVM Feed Rate Onversion Factors Used: Onversion Feight Conversion Original Conversion Original Conversion Original Conversion Original Conversion Original Conversion Original Conversion Original Conversion Original Conversion	12.0 0.205 0.545 0.75 0.56 1.90 0.003 0.087 0.090 490 64.7 2.69 2.95 5.64 6.48 2.90  Value  8.34 60 1,000 1,000	Lab Result As llgf fr = (LLGF fr) x (8.34) x (LLGF den) x (60) x (1 E-06) x (As llgfcond As sh fr = (SH fr) x (2,000) x (1 E-06) x (As shcond) As in = (As llgf fr) + (As sh fr) Lab Result Lab Result Be llgf fr = (LLGF fr) x (8.34) x (LLGF den) x (60) x (1 E-06) x (Be llgfcond Be sh fr = (SH fr) x (2,000) x (1 E-06) x (Be shcond) Be in = (Be llgf fr) + (Be sh fr) Lab Result Lab Result Cr llgf fr = (LLGF fr) x (8.34) x (LLGF den) x (60) x (1 E-06) x (Cr llgfcond Cr sh fr = (SH fr) x (2,000) x (1 E-06) x (Cr shcond) Cr in = (Cr llgf fr) + (Cr sh fr) LVM fr = (As in) + (Be in) + (Cr in)

# Sample Calculation - Metals Extrapolation Semivolatile Metals (SVM) = Cadmium and Lead Surrogate Metal Used = Lead (Pb) Using Test Condition 2 (October 2010) Averages for Three (3) Runs

<u>Parameter</u>	<u>Symbol</u>	<u>Units</u>	<u>Value</u>	<u>Equation</u>
MACT Standard	SVM std	µg/m³	250	Regulatory definition
90% of MACT Standard	SVM 90	μg/m³	225	SVM 90 = [(SVM std) x(0.90)]
Total Pb Feed Rate	Pb input	lb/hr	6.20	Pb input = Pb native + Pb spike
Pb Emission Rate (conc. basis)	Pb ER conc	μg/m³	54.5	Direct measurement by AECOM
Pb Emission Rate (mass basis)	Pb ER mass	lb/hr	3.03E-03	Direct measurement by AECOM
System Removal Efficiency	SRE	%	99.955%	SRE = [(Pb input - Pb ER mass) / (Pb input)] x 100
Stack Gas Flowrate	Qs	dscfm	36,504	Direct measurement by AECOM
Stack Gas Oxygen Conc.	O2 Conc	%	14.99	Direct measurement by AECOM
Extrapolated Feed Rate Limit	EFRL	.lb/hr	29.3	EFRL = [(60) x (Qs) x (21-O2 Conc) x (SVM 90)] ÷ [(1-%SRE) x (453.6) x (1.0E + 06) x (35.314) x (14)]
Minimum SRE to Meet MACT	SRE min	%	99.763%	SRE min = 1 - [{(60) x (Qs) x (21-O2 Conc) x SVM std} ÷ {(Pb input) x (453.6) x (1.0E + 06) x (35.314) x (14)}]
Conversion Factors Used:		<u>Units</u>	<u>Value</u>	
Metric Conversion Time Conversion Mass Conversion Mass Conversion		ft ³ / m ³ min / hr µg / g g / lb	35.314 60 1.0 E+6 453.6	

# Sample Calculations - Total Chlorine Input C2-R3 19-Oct-10

<u>Parameter</u>	<u>Symbol</u>	<u>Units</u>	<u>Value</u>	<u>Equation</u>
LLGF Feed Rate LLGF Density	LLGF fr LLGF den	gpm g/cc	10.2 1.0767	Direct measurement by Norlite Lab Result
Shale Feed Rate	SH fr	tph	22.8	Direct measurement by Norlite
Chloride (Cl) Conc. in LLGF Cl Conc. in Shale	CI ligfconc CI shconc	% wt mg/kg	1.98% 0.023%	Lab Result Lab Result
Cl Feed Rate in LLGF Cl Feed Rate in Shale	Cl llgf fr Cl sh fr	lb/hr lb/hr	108.8 10.7	CI llgf fr = (LLGF fr) x (8.34) x (LLGF den) x (60) x (CI llgfconc) CI sh fr = (SH fr) x (2,000) x (CI shconc)
Total Chloride Input	CI in	lb/hr	119.5	Cl in = (Cl llgf fr) + (Cl sh fr)
Conversion Factors Used:		<u>Units</u>	<u>Value</u>	
Density of Water		lb/gal	8.34	
Time Conversion Weight Conversion		min/hr lb/ton	60 2,000	

# Sample Calculation - Mercury (Hg) Emissions C2-R3 19-Oct-10

<u>Parameter</u>	<u>Symbol</u>	<u>Units</u>	<u>Value</u>	<u>Equation</u>
Actual Volume Metered	Vm	dcf	94.637	Direct measurement
Meter Box Calib. Factor	Υ		0.9900	Direct measurement
Barometric Pressure	Pb	in. Hg	29.75	Direct measurement
Meter Box Pressure	DH	in. w.c.	2.11	Direct measurement
Meter Box Pressure	DH	in. Hg	0.1550	DH (in. Hg) = DH (in. w.c.) / 13.6
Meter Box Temperature	Tm	°F	68.2	Direct measurement
Gas Sample Volume	SV	dscf	93.610	$SV = [(Vm) \times (Y) \times (528) \times (DH + Pb)] / [(29.92) \times (Tm + 460)]$
Mercury Quantity Detected	Qd	μg	34.1	Lab Result
Stack Oxygen Level	$O_2$	%	15.80	Direct measurement
Hg Concentration @ 7% O₂	HG conc	µg/m³	34.6	HG conc = $[(Qd) \times (35.314) \times (14)] / [(SV) \times (21 - O_2)]$
Conversion Factors Used:		<u>Units</u>	<u>Value</u>	
Specific Gravity of Mercury Standard Temperature Standard Pressure Metric Conversion		°R in. Hg ft ³ / m ³	13.6 528 29.92 35.314	

# Sample Calculations - HCl and Cl₂ Emissions Run # C2-R3 19-Oct-10

<u>Parameter</u>	Symbol	<u>Units</u>	<u>Value</u>	<u>Equation</u>
Actual Volume Metered	Vm	dcf	90.284	Direct measurement
Meter Box Calib. Factor	Υ		1.0160	Direct measurement
Barometric Pressure	Pb	in. Hg	29.75	Direct measurement
Meter Box Pressure	DH	in. w.c.	1.77	Direct measurement
Meter Box Pressure	DH	in. Hg	0.1299	DH (in. Hg) = DH (in. w.c.) / 13.6
Meter Box Temperature	Tm	°F	84.0	Direct measurement
Gas Sample Volume	SV	dscf	91.896	$SV = [(Vm) \times (Y) \times (528) \times (DH + Pb)] / [(29.92) \times (Tm + 460)]$
Stack Gas Flowrate	Qs	dscfm	36,256	Separate calculation. See example for PCDDs/PCDFs C1RT-R2.
HCI Quantity Detected	Qd HCl	μg	182,000	Lab Result
Stack Oxygen Level	$O_2$	%	15.80	Direct measurement
HCl Concentration @ 7% O ₂	HCl conc	ppm	123.81	HCl conc = $[(Qd HCl) \times (35.314) \times (0.024) \times (14)] / [(SV) \times (36.5) \times (21 - O_2)]$
HCI Emission Rate	HCI mass	lb/hr	9.498	HCI mass = $[(Qd HCI) \times (1.0 E-06) \times (Qs) \times (60)] / [(SV) \times (453.6)]$
Cl ₂ Quantity Detected	Qd Cl ₂	μg	1,400	Lab Result
Cl ₂ Concentration @ 7% O ₂	Cl ₂ conc	ppm	0.50	$Cl_2$ conc = [(Qd $Cl_2$ ) x (35.314) x (0.024) x (14)] / [(SV) x (70) x (21 - $O_2$ )]
Cl ₂ Emission Rate	Cl ₂ mass	lb/hr	0.073	$Cl_2$ mass = [(Qd $Cl_2$ ) x (1.0 E-06) x (Qs) x (60)] / [(SV) x (453.6)]
Total Chloride Equivalents	Tot CI Eq	ppm	125.0	Tot Cl Eq = [(HCl mass + $Cl_2$ mass) x (385.3) x (1.0 E-06) x (14)] /
@ 7% O ₂				$[(Qs) \times (36.5) \times (60) \times (21-\%O_2)]$
Conversion Factors Used:		<u>Units</u>	<u>Value</u>	
Specific Gravity of Mercury			13.6	
Standard Temperature		°R	528	
Standard Pressure		in. Hg	29.92	
Mass Conversion		g / lb	453.6	
Mass Conversion		μg/g	1.0 E+06	
Uuniversal Gas Constant		m ³ / g-mole	0.024	
HCl Molecular Weight		g / g-mole	36.5	
Cl ₂ Molecular Weight		g / g-mole	70	

# Sample Calculation - Particulate Matter (PM) Emissions Run # C2-R1 19-Oct-10

<u>Parameter</u>	<u>Symbol</u>	<u>Units</u>	<u>Value</u>	<u>Equation</u>
Actual Volume Metered	Vm	dcf	89.567	Direct measurement
Meter Box Calib. Factor	Υ		1.016	Direct measurement
Barometric Pressure	Pb	in. Hg	29.81	Direct measurement
Meter Box Pressure	DH	in. w.c.	1.74	Direct measurement
Meter Box Pressure	DH	in. Hg	0.1281	DH (in. Hg) = DH (in. w.c.) / 13.6
Meter Box Temperature	Tm	°F	61.0	Direct measurement
Gas Sample Volume	SV	dscf	92.271	$SV = [(Vm) \times (Y) \times (528) \times (DH + Pb)] / [(29.92) \times (Tm + 460)]$
PM Detected Front Half Rinse	FHR	mg	5.9	Lab Result
PM Detected Filter	FIL	mg	7.7	Lab Result
Total PM Detected	PM total	mg	13.6	PM total = FHR + FIL
Stack Oxygen Level	$O_2$	%	13.37	Direct measurement
PM Concentration (actual)	PM act	gr / dscf	0.0023	PM act = [(0.0154) x (PM total) / (SV)]
PM Concentration @ 7% O ₂	PM conc	gr / dscf	0.0042	PM conc = $[(PM act) \times (14)] / [(21 - O_2)]$
Conversion Factors Used:		<u>Units</u>	<u>Value</u>	
Specific Gravity of Mercury			13.6	
Standard Temperature		°R	528	
Standard Pressure		in. Hg	29.92	
Mass Conversion		grains / lb	7,000	
Mass Conversion		grains / mg	0.0154	

# Sample Calculation - MCB Destruction / Removal Efficiency C1A-R1 12-Jan-11

<u>Parameter</u>	Symbol	<u>Units</u>	<u>Value</u>	Equation
Actual Volume Metered (VOST Pair a)	Vm	aL	20.040	Direct measurement
Meter Box Calib. Factor	Υ		1.0577	Direct measurement
Barometric Pressure	Pb	in. Hg	29.60	Direct measurement
Meter Box Temperature	Tm	°C	0.4	Direct measurement
Gas Sample Volume (VOST Pair a)	sv	dsL	22.473	$SV = [(Vm) \times (Y) \times (293) \times (Pb)] / [(29.92) \times (Tm + 273)]$
Sample Volume (Pairs a,b & d)	SV total	dsL	66.450	SV for Pair a + Pair b + Pair d
Stack Gas Flowrate	Qs	dscfm	36,658	Direct measurement - Separate Sampling Train
Quantity Detected Pair a Tenax 1&2	a TX	μg	0.220	Lab Result
Quantity Detected Pair a Anasorb	a ANS	μg	0.005	Lab Result (ND, but using full RL)
Quantity Detected Pair b Tenax 1&2	b TX	μg	0.260	Lab Result
Quantity Detected Pair b Anasorb	b ANS	μg	0.005	Lab Result (ND, but using full RL)
Quantity Detected Pair d Tenax 1&2	d TX	μg	0.270	Lab Result
Quantity Detected Pair d Anasorb	d ANS	μg	0.005	Lab Result (ND, but using full RL)
Quantity Detected in Condensate	COND	μg	0.040	Lab Result (ND, but using full RL)
Total Quantity Detected	Qd	μg	0.805	Qd = Sum of all fractions
MCB Emission Rate	MCB er	lb/hr	1.66E-03	MCB er = $[(Qd)x(28.316)x(Qs)x(60)] / [(SV total)x(1.0 E+6)x(453.6)]$
Waste Feed Rate	WFR	lb/hr	0.0	Ignored so as to be conservative
MCB Conc. in Waste Streams	MCB conc	. %	0.00%	Ignored so as to be conservative
Native MCB Feed Rate	MCB wf	lb/hr	0.00	MCB wf = [(WFR) x (MCB conc)]
MCB Spiking Rate	MCB sp	lb/hr	60.03	Direct measurement provided by Triad
Total MCB Feed Rate	MCB tot	lb/hr	60.03	MCB tot = MCB wf + MCB sp
Destruction / Removal Efficiency	DRE	%	99.9972%	DRE = [(MCB tot - MCB er) / (MCB tot)] x 100
Conversion Factors Used:		<u>Units</u>	<u>Value</u>	
Standard Temperature		°K	293	
Standard Pressure		in. Hg	29.92	
Metric Conversion		L / ft ³	28.316	
Time Conversion		min / hr	60	
Mass Conversion		μg / g	1.0 E+6	
Mass Conversion		g / lb	453.6	
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